SEDIMENT SAMPLING TECHNICAL NOTE: 9.26

DECARBONISATION

Cory Decarbonisation Project

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March 2025

Revision A

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations, 2009 – Regulation 5(2)(q)

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1. INTRODUCTION

1.1. BACKGROUND

1.1.1. As part of the application for a Development Consent Order (DCO) for the Cory Decarbonisation Project, hereafter referred to as the 'Proposed Scheme', **Appendix 11-1: Water Framework Directive Assessment of the Environmental Statement (Volume 3) (APP-106)** and **Chapter 8: Marine Biodiversity of the Environmental Statement (Volume 1) (APP-057)** (hereafter referred to as the 'WFD Assessment and the 'Marine Biodiversity ES Chapter') assessed the potential impacts of the elements of the construction and operation of the Proposed Scheme to be undertaken within the River Thames.

1.1.2. Within both the WFD Assessment and Marine Biodiversity ES Chapter, the Applicant committed to undertaking further sediment sampling at depth, which has now been undertaken. The purpose of this Technical Note is to describe the results of the subsequent sediment sampling at depth and to validate the conclusions of both the WFD Assessment and impact assessment of the release of sediment bound contaminants on the marine ecology of the Thames Middle Transitional Water Body within the Marine Biodiversity ES Chapter.

1.1.3. A summary of the relevant works for the WFD Assessment and Marine Biodiversity ES Chapter is provided below:

- Construction Dredging (Construction Phase): A dredge pocket will be required to accommodate export vessels. The WFD Assessment was based upon an estimated capital dredge of 110,000m^3 however this has since been increased to 150,000m^3 of material, as described in the **Change Request Report (AS-048)**. Additionally, as part of this change request the berth pocket was expected to be dredged to approximately -10.5m chart datum (CD) however this is now -11.0m CD to ensure larger vessels can access the Proposed Jetty during any state of tide. Dredging of the berth pocket is expected to take up to approximately 11 weeks operating approximately 18.5 hours per day. The removal of the dredged arisings will be undertaken by an appropriately licenced waste carrier. Backhoe dredging will be the chosen method due to contaminants located on the riverbed at the location of the Proposed Jetty. Backhoe or mechanical dredging utilises an excavator mounted on the edge of a pontoon or barge, which reaches into the water and scoops bed material out. A separate vessel or barge will be moored alongside, which the dredged material is deposited directly into.
- Maintenance Dredging (Operation Phase): Periodic maintenance dredging will be required to ensure the Proposed Jetty remains accessible. The typical frequency of the maintenance dredging is approximately 12 monthly however; this may vary depending on the intensity of coastal processes and frequency of berth usage. The WFD Assessment was based upon an annual maintenance dredge volume of

approximately 9,000m^3 however this has since been increased to 10,000m^3, as described in the **Change Request Report (AS-048)**. Similar to capital dredging, maintenance dredging will be managed in accordance with relevant legislation and will be disposed of offsite (via vessel and only if dredged arisings are deemed suitable for this disposal method and conform with the permits for disposal sites). The removal of the dredged arisings will be undertaken by an appropriately licenced waste carrier.

1.1.4. To inform the water quality assessment of the WFD assessment and Marine Biodiversity ES Chapter, surface grab samples were retrieved from the river bed across the area of proposed dredge in May, June and September 2023. The assessment determined that dredging activities may result in additional contaminant loading for some priority substances which would negatively impact on the water quality due to contaminant release from historically contaminant impacted sediment during dredging. However, these impacts were considered to be temporary and localised in the context of the wider water body and therefore unlikely to have a significant impact on the water body. At the time it was acknowledged that a limitation of the assessment was due to the availability of data, being based upon surface grab samples only. As such further sediment sampling from the full depth of the proposed dredge pocket would be required to confirm the findings of this assessment.

1.1.5. Further sediment sampling from within the dredge pocket has since been undertaken and this Technical Note aims to present the findings of this work to validate the findings of the WFD Assessment and Marine Biodiversity ES Chapter.

1.1.6. The WFD Assessment should be read for a full understanding of the assessment; for brevity only relevant and new sediment sampling data is provided within this Technical Note.

OVERVIEW OF THE WFD ASSESSMENT

1.1.7. **Section 6.3** of the WFD Assessment concluded that, with the inclusion of mitigation measures, the Proposed Scheme would not lead to a deterioration in the WFD water body status of the Thames Middle Transitional Water Body and was assessed as being WFD compliant. The WFD compliance assessment for the Proposed Scheme is summarised in **Table 1** below.

Table 1: Compliance Assessment of the Proposed Scheme against WFD Status

Water Body ID	GB530603911402
Water body name	Thames Middle Transitional Water Body
Deterioration in the status/potential of the water body	**Biological:** The Proposed Scheme is not anticipated to cause any long lasting or widespread deterioration to the biological status of the water body on the assumption that the mitigation measures and

Water Body ID	GB530603911402
	controls as outlined in the **Outline CoCP (REP4-008)** and the conditions of the Deemed Marine Licence in the **Draft DCO (REP4-004)** are implemented during the construction and operation phases. **Physico-chemical:** The Proposed Scheme is not likely to cause a deterioration in the status/potential of the water body with respect to water quality during the construction and operation assuming that the mitigation measures and controls as outlined in the **Outline CoCP (REP4-008)** and the conditions of the Deemed Marine Licence in the **Draft DCO (REP4-004)** are implemented. **Hydromorphology:** The Proposed Scheme is not likely to cause a deterioration in the status/potential of the water body for hydromorphological elements, neither during the construction nor the operational phases if mitigation measures as outlined in the **Outline CoCP (REP4-008)** are implemented during the construction phase.
Ability of the water body to achieve Good Ecological Potential/Status	The Proposed Scheme is not likely to impact negatively on the ability of the water body to achieve Good Ecological Potential/Status with the implementation of mitigation measures through the construction and operation phases, as set out by the **Outline CoCP (REP4-008)** and **Mitigation Schedule (REP1-010)**. Full CoCP(s) and an Operational EMP will be prepared prior to the commencement of construction in substantial accordance with the Outline CoCP, and the relevant measures in the Mitigation Schedule, respectively, which is secured through by a requirement in the **Draft DCO (REP4-004)**, as well as through the application of the Deemed Marine Licence within the DCO.

Water Body ID	GB530603911402
Impact on the WFD objectives of other water bodies within the same RBD	No other WFD water bodies are anticipated to be impacted by the Proposed Scheme.
Ability to contribute to the delivery of the WFD objectives	With appropriate mitigations measures in place, the Proposed Scheme will not cause deterioration in WFD objectives for the Thames Middle Transitional Water Body with the implementation of mitigation measures during the construction and operation phases, as set out by the **Outline CoCP (REP4-008)** and **Mitigation Schedule (REP1-010)**. Full CoCP(s) and an Operational EMP will be prepared prior to the commencement of construction in substantial accordance with the Outline CoCP and the relevant measures in the Mitigation Schedule, respectively, which is secured through by a requirement in the **Draft DCO (REP4-004)**, as well as through the application of the Deemed Marine Licence within the DCO.

MARINE BIODIVERSITY ES CHAPTER

1.1.8. **Paragraphs 8.8.41** to **8.8.56** and **Paragraphs 8.8.39** to **8.8.150** of the Marine Biodiversity ES Chapter assess the potential impacts from changes in water quality and release of contaminants that could occur as a result of the construction and operation of the Proposed Scheme.

1.1.9. The assessment within the Marine Biodiversity ES Chapter used results of contaminant analysis from sediment surface grabs to determine the magnitude of the impact upon the ecology of the Thames Middle Transitional Water Body. The results of the surface sediment analysis are summarised in **Paragraph 8.8.44** of the Marine Biodiversity ES Chapter, "*Many samples comprised of contaminants that exceeded CEFAS action level (AL) 1, however, only one priority substance above CEFAS AL 2 (Mercury at Subtidal Point 13)*".

1.1.10. For the construction phase of the Proposed Scheme, the assessment concluded that, with the implementation of additional design, mitigation and enhancement measures described in **Paragraph 8.9.1** of the Marine Biodiversity ES Chapter, the residual effects would be Minor Adverse (Not Significant) for all sensitive receptors except marine plants, macroalgae, plankton and marine mammals whereby the effects are considered to be Negligible (Not Significant) (as described in **Table 8-14** of the Marine Biodiversity ES Chapter).

1.1.11. For the operation phase of the Proposed Scheme, the assessment concluded that, with the implementation of additional design, mitigation and enhancement measures described in **Paragraph 8.9.1** of the Marine Biodiversity ES Chapter, the residual effects would be Negligible (Not Significant) for all sensitive receptors (as described in **Table 8-14** of the Marine Biodiversity ES Chapter).

1.1.12. As part of the additional design, mitigation and enhancement measures described in **Paragraph 8.9.1** (and in addition to the surface grab samples previously taken) further sediment sampling at depth was committed to by the Applicant.

2. SEDIMENT SAMPLING METHODOLOGY

2.1. SEDIMENT SAMPLING PLAN AND CONSULTATION

2.1.1. Previous sediment sampling was undertaken on three occasions; 18th May, 19th June, 21st September 2023. Fifteen sediment grab samples were collected from a number of subtidal and intertidal locations and submitted to Marine Management Organisation (MMO) approved Socotec Marine Department Laboratory for chemical analysis. All of these samples were surface grab samples.

2.1.2. Further sediment sampling using vibrocoring was undertaken between 13th to 17th December 2024. Where vibrocoring was not possible, grab samples were attempted. For ease of reference and to provide a comprehensive analysis the full sampling dataset is presented within this Technical Note.

2.1.3. A sediment sampling plan (Case Reference: SAM/2024/00042) was provided to MMO, Centre for Environment, Fisheries and Aquaculture Science (CEFAS) and Port of London Authority (PLA) for their review and comment prior to commencement of sampling. The sampling was designed to fulfil OSPAR guidelines[1] for dredging in terms of sampling density. **Figure 1** below shows the agreed locations following consultation. Sediment cores were to be collected using the vibrocore sampling method with samples taken at 1m intervals to the target depth.

2.1.4. The suite of chemical analysis included parameters listed under CEFAS Action Levels including metals, polycyclic aromatic hydrocarbons polychlorinated biphenyls and organotins. Samples were also analysed for other supporting parameters including total organic carbon and particle size distribution following agreement of the suite with the MMO, CEFAS and PLA. The MMO results template is provided in **Appendix A**.

[1] OSPAR Commission. (2007). 'Convention For The Protection of The Marine Environment of the North-East Atlantic'.

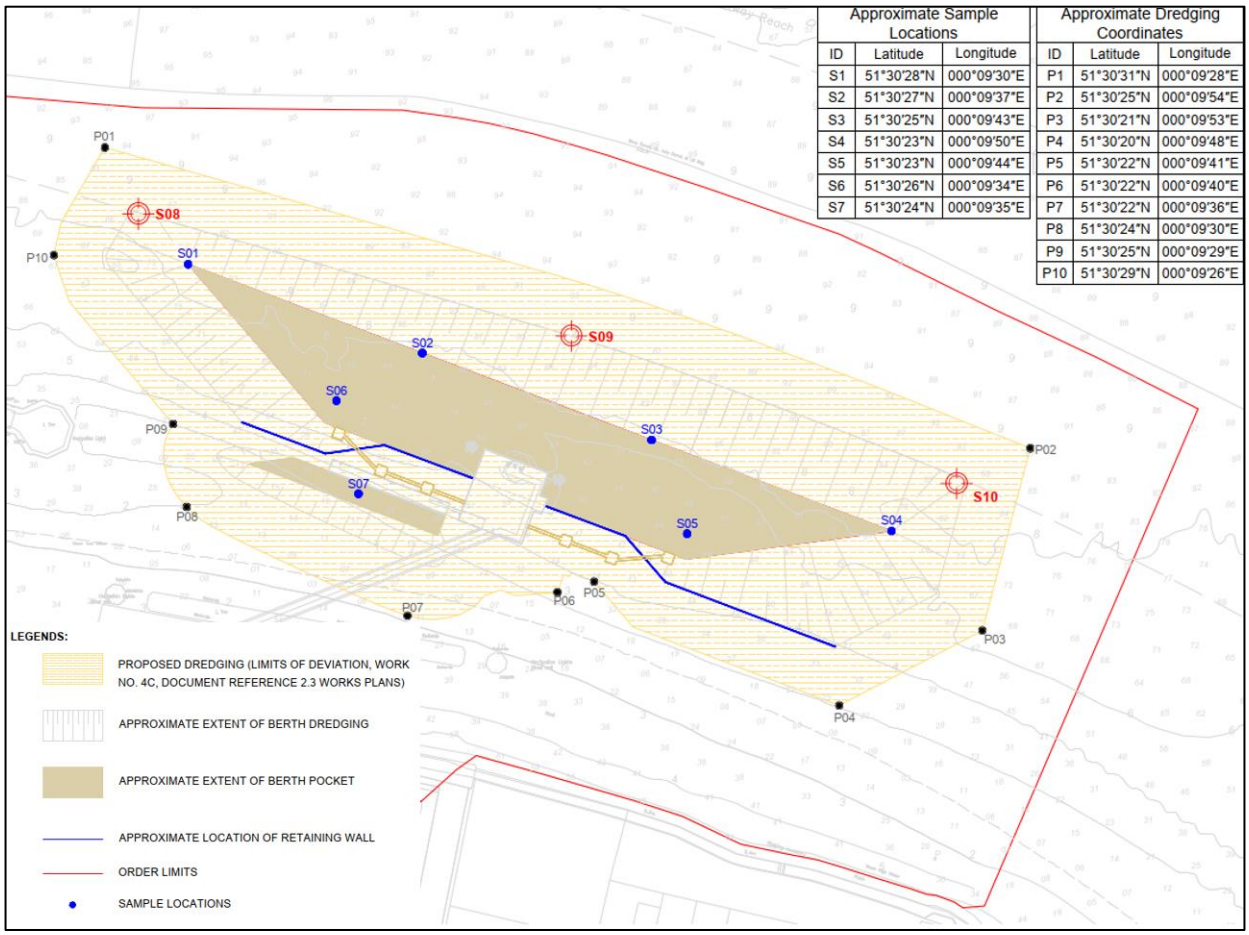

Figure 1: Sediment Sampling Locations in Accordance with the Agreed Sampling plan (Case Reference: SAM/2024/00042)

3. SEDIMENT SAMPLING RESULTS

3.1. ENCOUNTERED CONDITIONS

3.1.1. During the collection of the samples, the team encountered difficult conditions for sampling using vibrocoring techniques. The surface of the riverbed was found to be hard with gravel / cobbles preventing the retrieval of cores in all but three of the ten locations. Site observations are provided in **Table 2** below. Grab samples were attempted where a vibrocore was not possible due to the presence of hard substrate.

3.1.2. In total six samples were sent for chemical analysis from three locations (SO5, SO6 and SO7).

Table 2: Site Observations During Sampling

Station No.	Notes
SO1	Attempts made with grab and vibrocore but unable to obtain samples due to hard substrate.
SO2	Failed sample vibrocore due to hard substrate. Three attempts made during slack water. Most successful samples consisted of 5cm of firm mud. The grab could not get a sample, with only one pebble collected.
SO3	Attempts made with grab and vibrocore but unable to obtain samples due to hard substrate.
SO4	Three attempts made with grab and vibrocore but unable to obtain samples due to hard substrate.
SO5	No grab was taken due to hard substrate. Three vibrocore attempts made and only one 70cm of sediment obtained.
SO6	Three attempts made, only 90cm of sample obtained. One grab and one sample from 0.9m retrieved.
SO7	On 13/12/24 vibrocore attempts failed at this station due to tide. Station revisited on 14/12/24. Failed sample vibrocore on the 14/12/24. Grab successful with muddy sand sediment.
SO8	Failed grab and vibrocore due to hard substrate. Chains also dragging.
SO9	Failed sample vibrocore due to hard substrate. Anchors dragging on hard substrate and pebbles recovered in grab.
SO10	Large boulders recovered, unable to vibrocore at this station due to this. No grab sample possible.

SEDIMENT PARTICLE SIZE DISTRIBUTION RESULTS

3.1.5. Each sample was submitted for Particle Size Distribution (PSD) testing. A summary of the results are provided below in **Table 3**. These show the variability in the gravel/cobles vs sand/mud (sediment) content between sampling locations with some samples having low sediment content.

Table 3: Particle Size Distribution Summary

Sample Id / Depth	Textural Group Classification	Total Solids (%Total Sediments)	Organic Matter (Total Organic Carbon)	Gravel	Sand	Mud
S05 0.70m	Msg: Muddy Sandy Gravel	83.50	0.47	63.0%	29.6%	7.4%
S06 0.00m	Gm: Gravelly Mud	47.40	2.87	11.2%	24.7%	64.1%
S06 0.90m	Sm: Sandy Mud	64.90	3.18	0.0%	19.4%	80.6%
S07 0.00m	(G)Ms: Slightly Gravelly Muddy Sand	59.80	2.73	0.1%	77.9%	21.9%
S07 1.00m	Sm: Sandy Mud	73.80	0.53	0.0%	49.6%	50.4%
S07 2.00m	(G)Ms: Slightly Gravelly Muddy Sand	62.10	2.60	0.3%	71.7%	28.0%

SEDIMENT CHEMICAL RESULTS – CEFAS SCREENING

3.1.6. Sediment analysis results from all four rounds of grab and vibrocore sampling have been compared against CEFAS Action Levels 1 and 2 which have been established specifically to assess the suitability of dredged material for disposal at sea. In general, contaminant concentrations below Action Level 1 (AL1) are of no concern when disposing of dredged sediments to sea. Concentrations between Action Levels 1 and 2, indicate a concern and require consideration before suitable disposal decisions can be made. Concentrations above Action Level 2 (AL2) are generally considered to be unsuitable for disposal to sea.

3.1.7. The screened data is presented in **Appendix B**. **Table 4** (overleaf) provides a summary of those contaminants which were found to exceed AL1 and AL2 only.

3.1.8. In summary, sediment concentrations of metals and polycyclic aromatic hydrocarbons (PAH) were encountered above AL1 criteria in a number of locations. The concentration of dichlorodiphenyltrichloroethane (PPDDT) encountered in the sediment sampling obtained from ‘Subtidal 12’, ‘S05 and ‘S07’ was in excess of AL1. The sum of Polychlorinated biphenyls (PCBs) congeners was found to be in excess of AL1 levels within 19 of the 21 samples. Additionally, the concentration of Mercury identified within sediment sampling location ‘S3’ and ‘S06’was identified as above the AL2 criteria (3.00mg/kg) with a maximum concentration of 5.23mg/kg.

SEDIMENT CHEMICAL RESULTS – CANADIAN SEDIMENT QUALITY GUIDELINES

3.1.9. Sediment chemical results have also been compared to the Canadian Sediment Quality Guidelines for the Protection of Aquatic Life (2001)[2] to provide an indication of the degree of contamination and the likely impact on aquatic ecosystems. The Canadian Sediment Quality Guidelines are used as a broadly protective tool to support the functioning of healthy aquatic ecosystems.

3.1.10. The Guidelines consist of threshold effect levels (TEL) and probable effect levels (PELs). The TELs and PELs are used to identify the following ranges of chemical concentrations with regards to biological effects.

- below TEL – minimal effect within which adverse effects rarely occur;
- between TEL and PEL – the possible effect range, within which adverse effects occasionally occur; and
- above the PEL – the probable effect range within which adverse effects frequently occur.

[2] Canadian Council of Ministers of the Environment. (2001) ‘Canadian sediment quality guidelines for the protection of aquatic life’.

3.1.11. The screened data is presented in **Appendix B**. **Table 5** (overleaf) provides a summary of those contaminants which were found to exceed TEL and PEL.

3.1.12. In summary, concentrations of metals, PAH and pesticides and Decabromodiphenyl ether (BDE 209) were encountered in excess of the TEL in all sediment samples obtained from the area of proposed dredge, indicating the potential for adverse effects to occasionally occur. In addition, a number of samples exhibited concentrations of Mercury, Lead, Zinc and PAHs above the PEL indicating the potential for adverse effects to frequently occur.

Table 4: Sediment sampling results against CEFAS Action Levels

Analyte	AL1	AL2	Min mg/kg	Max mg/kg	# AL1 Exceed	# AL2 Exceed
Arsenic (As)	20	100	6	47.4	21	
Cadmium (Cd)	0.4	5	0.15	0.5	4	
Chromium (Cr)	40	400	12.5	78.4	4	
Copper (Cu)	40	400	11.8	99.9	21	
Mercury (Hg)	0.3	3	0.1	5.23	16	3
Nickel (Ni)	20	200	6.7	49.5	9	
Lead (Pb)	50	500	17.4	370	13	
Zinc (Zn)	130	800	45.4	281	8	
Acenaphthene	0.1		0.0095	0.812	10	
Acenaphthylene	0.1		0.019	0.287	8	
Anthracene	0.1		0.0233	1.65	13	
Benz(a)anthracene	0.1		0.0654	4.99	20	
Benzo(a)pyrene	0.1		0.113	5.33	21	
Benzo(b)fluoranthene	0.1		0.104	4.39	21	
Benzo(g,h,i)perylene	0.1		0.0948	2.86	20	
Benzo(e)pyrene	0.1		0.0812	3.46	20	
Benzo(k)fluoranthene	0.1		0.101	4.19	21	
C1-Naphthalenes	0.1		0.0177	1.21	11	
C1-Phenanthrenes	0.1		0.0661	2.65	18	
C2-Naphthalenes	0.1		0.0369	1.17	12	
C3-Naphthalenes	0.1		0.0381	1.06	10	
Chrysene	0.1		0.0798	5.7	20	
Dibenz(a,h)anthracene	0.1		0.0179	0.707	12	
Fluoranthene	0.1		0.119	13.3	21	
Fluorene	0.1		0.0124	0.844	12	
Indeno(123-c,d)pyrene	0.1		0.0996	3.09	20	
Naphthalene	0.1		0.0156	0.646	10	
Perylene	0.1		0.0844	1.49	19	
Phenanthrene	0.1		0.0625	4.17	20	
Pyrene	0.1		0.113	10.4	21	
Total Hydrocarbon Content	0.1		0.00678	0.643	10	
Sum of PCBs (25 congeners)	0.02	0.2	0	0.13146	19	
PPDDT	0.001		0.0002	0.0018	3	

Table 5: Sediment sampling results against Canadian Sediment Quality Guidelines

Analyte	ISQG/TEL mg/kg	PEL mg/kg	Min mg/kg	Max mg/kg	# ISQG/TEL Exceed	# PEL Exceed
Arsenic (As)	7.24	41.6	6	47.4	17	1
Chromium (Cr)	52.3	160	12.5	78.4	3	
Copper (Cu)	18.7	108	11.8	99.9	19	
Mercury (Hg)	0.13	0.7	0.1	5.23	14	5
Lead (Pb)	30.2	112	17.4	370	16	3
Zinc (Zn)	124	271	45.4	281	7	1
Acenaphthene	0.00671	0.0889	0.0095	0.812		12
Acenaphthylene	0.00587	0.128	0.019	0.287	21	
Anthracene	0.0469	0.245	0.0233	1.65		3
Benz(a)anthracene	0.0748	0.693	0.0654	4.99	11	9
Benzo(a)pyrene	0.0888	0.763	0.113	5.33	11	10
Chrysene	0.108	0.846	0.0798	5.7	11	9
Dibenz(a,h)anthracene	0.00622	0.135	0.0179	0.707	11	10
Fluoranthene	0.113	1.494	0.119	13.3	12	9
Fluorene	0.0212	0.144	0.0124	0.844	12	8
Naphthalene	0.0346	0.391	0.0156	0.646	17	2
Phenanthrene	0.0867	0.544	0.0625	4.17	8	12
Pyrene	0.153	1.398	0.113	10.4	12	8
Sum of PCBs (25 congeners)	0.0215	0.189	0	0.13146	1	
PPTDE	0.00122	0.00781	0.0001	0.0016	1	
PPDDT	0.00117	0.00477	0.0002	0.0018	1	
BDE209	0.0475		0.0004	0.5769	2	

BASELINE WATER QUALITY

3.1.13. The Environment Agency provided contaminant baseline concentration data on 19th February 2025 which were calculated over a three-year period 2016-2018 (inclusive) for the Thames Middle Transitional Water Body (Waterbody ID GB530603911402). Six monitoring points are located within this waterbody:

- Thames at London Bridge;
- Thames at Erith (26.6km below London Bridge);
- Thames at Gravesend (42.5km below London Bridge);
- Thames at Ovens Buoy (47.7km below London Bridge);
- Thames at Greenhithe (34.8km below London Bridge); and
- Thames at Victoria Dock (11.4km below London Bridge).

3.1.14. **Table 6** provides a summary of the mean chemical results between 2016-2018 from each of these monitoring points. This information was provided by the Environment Agency. For clarity only those contaminants which were also included with the sediment analysis results from the grab samples have been included.

Table 6: Mean Concentration of Contaminants from Monitoring Points within Thames Middle Transitional Water Body (µg/l)

Analyte	Thames at London Bridge	Thames at Erith	Thames at Gravesend	Thames at Ovens Buoy	Thames at Greenhithe	Thames at Victoria Dock	Mean concentration within Middle Thames Transitional Water Body
Arsenic (As)	2.5	2.5	2.5	2.5	ND	ND	**2.5**
Cadmium (Cd)	0.035	0.04762	0.05214	0.05175	0.04637	ND	**0.046575**
Chromium (Cr)	0.5	0.5	0.5	0.5	0.5	ND	**0.5**
Copper (Cu)	3.434	4.773	3.662	3.58	3.994	3.809	**3.7635**
Nickel (Ni)	2.796923	2.7533333	2.2916666	2.0691666	ND	ND	**2.4778**
Lead (Pb)	0.15	0.15	0.15	0.15	ND	ND	**0.15**
Zinc (Zn)	6.758	12.1866666	9.0433333	7.98	ND	9.88	**9.17**
Tributyltin (TBT)	0.0005415	0.0005215	0.0010752	0.0006103	ND	ND	**0.000687**
Anthracene	0.005	0.005	0.005	0.005	ND	ND	**0.005**
Naphthalene	0.0216666	0.015	0.015	0.015	ND	ND	**0.01667**
PPDDT	0.0008599	0.0009166	0.0009249	0.0008199	ND	ND	**0.0008803**
ND = No data.							

3.2. SEDIMENT SAMPLING AND CHEMICAL ANALYSIS

ASSESSMENT OF IMPACT OF CAPITAL DREDGE ON THAMES MIDDLE TRANSITIONAL WATER BODY QUALITY

3.2.1. As described **Table 5-1** of the WFD Assessment, the Thames Middle Transitional Water Body has not achieved good chemical status due to exceedances of priority hazardous substances benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, mercury and its compounds, perfluorooctane sulphonate (PFOS), polybrominated diphenyl ethers (PBDE), and tributyltin compounds. However, the background concentrations were not available for all of these substances.

3.2.2. A particle tracking dispersion model was completed within **Appendix 11-4: Coastal Modelling Studies (Volume 3)** for the proposed capital dredging. The following information from **Appendix 11-4: Coastal Modelling Studies (Volume 3)** is considered relevant to this technical note (including relevant model assumptions):

- It was assumed that sediment could be released at any point in the dredge process so losses would be instantaneously and equally distributed between the surface, mid-depth and bed layers.
- Each dredge campaign lasted 18.5 hours with a dredge volume of 1,423m^3. The model was then allowed to continue until either the mass of each individual particle fell below 0.0001kg or fell to the seabed.
- It was assumed that the river would reach a morphological equilibrium state in the 5.5 hours between dredging operations, therefore accumulative impacts were not considered, and the system was assumed to ‘reset’ after each daily dredge campaign.
- The excursion length of the mud material released during the dredging was projected approximately 3km upstream and downstream of the Proposed Jetty. The dredge plume was not predicted to extend the full width of the estuary (approximately 650m) but instead, was shown to keep within a narrow (< 100m) band.
- The results of the dispersion of expected dredge arisings show that for all scenarios considered that the average concentration of excess suspended sediment (Silt or Sand) is likely to be very low (<10mg/l) and limited to a maximum of 3km upstream and downstream of the dredge operation. The higher concentration is predicted to occur immediately adjacent to the dredging activity for both sand and silt sediment types.
- In summary, the study concluded the predicted impacts from the capital dredge operations were not considered significant, primarily due to the mechanism of the dredge operation (backhoe) where material is removed from the system and disposed offsite. The findings are based on reasonable worst case assumptions, in particular a working window of 18.5 hours with a loss rate of 1kg/s. Sensitivity of adjusting these parameters did not result in any significant changes, suggesting that the results presented are reasonable.

3.2.3. It is understood that no agreed published methodology currently exists to determine the impact of contaminant impact sediment on Controlled Waters during dredging. However, following consultation with the Environment Agency on the 19th February 2025 (as described within the **Environment Agency Statement of Common Ground (as updated alongside this submission)**) a methodology for the assessment was agreed which makes a number of conservative assumptions, which are described below:

1. Background concentrations of WFD chemical substances measured across Thames Middle Water Body sites during the 2019 cycle 3 chemical classifications (see **Table 6**) were multiplied by the low water Thames Middle Transitional Water Body volume of 249,038,845,000 litres (provided by the PLA). Contaminant concentrations are not available for all analytes tested during the sediment sampling but data is provided where available. This calculation produces the Baseline Water Body Mass of each contaminant.
2. Conservatively the highest concentration from the sediment analysis was derived (see **Table 6**). This was multiplied by the total dredge volume (150,000m^3 converted to 150,000,000L) producing the 'Worst Case Dredge Mass'.
3. The Baseline Water Body Contaminant Mass and Worst Case Dredge Contaminant Mass are then added together to produce the New Worst Case Water Body Contaminant Mass. This can then be divided by the low water Thames Middle Transitional Water Body volume to calculate the New Water Body Concentration which can be compared to relevant Environmental Quality Standard Annual Average (EQS AA) and Maximum Allowable Concentration (MAC) limits (where available). This can then also be used to derive the percentage uplift of the contaminant which could result from the dredge. A 3% uplift threshold was recommended by the Environment Agency as a practical threshold to determine the boundary between no deterioration and deterioration of the water body where the water body concentration of a contaminant already exceeded the EQS.

3.2.4. Backhoe dredging will be adopted for the Proposed Scheme and the assessments presented within the WFD Assessment and Marine Biodiversity ES Chapter are based upon this method. The dredged arisings will be managed in accordance with relevant legislation and will be disposed of offsite (via vessel and only if dredged arisings are deemed suitable for this disposal method and conform with the permits for disposal sites). The removal of the dredged arisings will be undertaken by an appropriately licenced waste carrier. **Table 7** shows the calculations where dredged materials are removed using backhoe dredging. In this instance a sediment loss rate of 15% has been applied which is considered to be conservative.

3.2.5. The following conservative assumptions were used:

- It is assumed that 100% of the contaminant concentrations present within the sediment enters solution within the water column (which is unlikely especially for less soluble compounds such as some PAH);
- That 100% of the sample was formed of sediment (which is not the case based upon PSD testing where gravel formed a significant proportion of the sample);
- The highest concentration of any analytes was used within the calculations assuming this concentration is uniform across the entire dredge mass;
- The mean low-water water body volume has been used although the proposed dredging would be undertaken across the tidal cycle; and
- $1m^3$ of sediment is equal to 1,000 litres of sediment, i.e. that the density of sediment is equal to 1.

3.2.6. Within both **Table 7** the results shown in red are where this 3% threshold has been exceeded. New water body Concentrations which exceed EQS AA (or EQS MAC value where EQS AA are not available) are highlighted in bold.

Table 7: Potential Contaminant Masses and Concentrations as a Result of Capital Dredge in the Thames Middle Transitional Water Body (Backhoe Dredging Scenario with 15% Sediment Loss Rate)

Analyte	EQS AA µg/l	EQS MAC µg/l	Background Concentration µg/l	Baseline Water Body Contaminant Mass µg	Highest Sediment Concentration mg/kg	Worst Case Dredge Contaminant Mass µg	New Worst Case Water Body Contaminant Mass µg	New Water Body Contaminant Concentration µg/l	% uplift of Contaminant Concentration
Arsenic (As)	25	No EQS	2.5	6.22597E+11	47.4	1,066,500,000	6.23664E+11	2.5043	0.17
Cadmium (Cd)	0.2	No EQS	0.04657	11,597,739,012	0.5	11,250,000	11,608,989,012	0.0466	0.10
Chromium (Cr)	0.6*	No EQS	0.5	1.24519E+11	78.4	1,764,000,000	1.26283E+11	0.5071	1.42
Copper (Cu)	7.60	No EQS	3.875	9.65026E+11	99.9	2,247,750,000	9.67273E+11	3.8840	0.23
Nickel (Ni)	8.6	34	2.4778	6.17068E+11	49.5	1,113,750,000	6.18182E+11	2.4823	0.18
Lead (Pb)	1.3	14	0.15	37,355,826,750	370	8,325,000,000	45,680,826,750	0.1834	22.29
Zinc (Zn)	7.9	No EQS	9.17	2.28369E+12	281	6,322,500,000	2.29001E+12	**9.1954**	0.28
Tributyltin (TBT)	0.0002	0.0015	0.0006871	171,114,590.4	0.072	1,620,000	172734590.4	**0.0007**	0.95
Anthracene	0.1	0.1	0.005	1,245,194,225	1.65	37,125,000	1,282,319,225	0.0051	2.98
Naphthalene	2	130	0.01667	4,151,477,546	0.646	14,535,000	4,166,012,546	0.0167	0.35

Analyte	EQS AA µg/l	EQS MAC µg/l	Background Concentration µg/l	Baseline Water Body Contaminant Mass µg	Highest Sediment Concentration mg/kg	Worst Case Dredge Contaminant Mass µg	New Worst Case Water Body Contaminant Mass µg	New Water Body Contaminant Concentration µg/l	% uplift of Contaminant Concentration
PPDDT	0.01	No EQS	0.0008803	219,228,895.3	0.0018	40,500	219,269,395.3	0.0009	0.02
***EQS AA for Chromium VI.**									

3.2.7. Based on this assessment of sediment samples, the predicted concentrations show exceedances of Zinc and Tributyltin. However, the background concentration of both of these contaminants already exceeds the EQS AA for Tributyltin and Zinc. The additional predicted uplift from the sediment did not breach the 3% uplift threshold for either contaminant therefore is not considered to be significant.

3.2.8. The 3% uplift threshold was exceeded for the New Water Body Concentration for Lead however did not exceed the relevant EQS AA criteria and therefore is not significant.

3.2.9. The assumptions for this assessment were highly conservative and yet demonstrate that any exceedances of EQS AA are not significant and any increase in contaminant loading would likely be highly localised and short lived. Therefore, it is highly unlikely that dredging using this technique would lead to a temporally significant deterioration of the assessed water quality elements within the Thames Middle Transitional Water Body and will thus not prevent the water body from meeting its WFD objectives during either the capital dredge.

ASSESSMENT OF IMPACT ON MAINTENANCE DREDGE ON THAMES MIDDLE TRANSITIONAL WATER BODY QUALITY

3.2.10. A separate assessment has not been undertaken for the maintenance dredge as the capital dredge is considered to present a worst case scenario. Based upon the outcome of this assessment, it is considered highly unlikely that the maintenance dredge would lead to a deterioration of the assessed water quality. However, maintenance dredging will be managed in accordance with relevant legislation and will be disposed of offsite (via vessel and only if dredged arisings are deemed suitable for this disposal method and conform with the permits for disposal sites). The removal of the dredged arisings will be undertaken by an appropriately licenced waste carrier.

4. CONCLUSIONS

4.1. APPENDIX 11-1: WATER FRAMEWORK DIRECTIVE ASSESSMENT OF THE ENVIRONMENTAL STATEMENT

4.1.1. **Table 6-8** of the WFD Assessment outlines the compliance of the assessment with the inclusion of the outlined mitigation measures. Following the further sediment sampling at depth, the analysis of the results of this sampling have been found to confirm the findings of the WFD Assessment. The Proposed Scheme is not likely to cause a deterioration in the status/potential of the water body with respect to water quality during the construction and operational phases, with the implementation of the mitigation measures secured in the **Outline CoCP (REP4-008)** within the requirements in the **Draft DCO (REP4-004)**.

4.2. CHAPTER 8: MARINE BIODIVERSITY OF THE ENVIRONMENTAL STATEMENT

4.2.1. As described above for the WFD Assessment, the findings of the sediment sampling detailed within this technical note validate the conclusions of the Marine Biodiversity ES Chapter (and confirm that an appropriate magnitude of impact was used in the assessment). This is based upon the fact that the sediment contaminant testing at depth only reported one contaminant, Mercury, exceeding CEFAS Action Level 2. This is consistent with the results returned from the analysis of sediment surface grabs (May, June and September 2023) which were used to inform the impact assessment within the Marine Biodiversity ES Chapter (**Paragraph 8.8.44**). There were a number of other contaminants that exceeded AL1 within the at depth sediment samples, however these were also consistent with the results from the surface grab analysis which was used to determine the magnitude of impact in the assessment in the Marine Biodiversity ES Chapter.

4.2.2. The impacts of the release of contaminants from maintenance dredging on ecological receptors within the Thames Middle Transitional Water Body are detailed in **Paragraphs 8.8.139 to 8.8.150** of the Marine Biodiversity ES Chapter. The negligible to low magnitude of impact for the release of contaminants from maintenance dredging is based upon the reduced volumes of dredging required, the result from the surface sediment contaminant analysis and the mitigation measures in place as described in **Section 8.7** and **Section 8.9** of the Marine Biodiversity ES Chapter (including the use of a backhoe dredging, sediment contaminant testing). The mitigation measures are secured via the **Draft DCO (REP4-004)**.

Appendices

Appendix A

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

SOCOTEC

Test Report ID MAR02562

Issue Version: 1

Customer: Ocean Ecology Ltd, Unit 8 Strashleigh View, Lee Mill Industrial Estate, Plymouth, PL21 9GS

Customer Reference: Vibrocoring at Cory Jetty on the Thames

Date Sampled: 14-17-Dec-24

Date Samples Received: 16-Jan-25

Test Report Date: 06-Feb-25

Condition of samples: Cold Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditation
The results reported relate only to the sample tested
The results apply to the sample as received

[redacted]

Authorised by: [redacted]

Position: Customer Service Specialist

UKAS TESTING
1252

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Test Report ID MAR02562
Issue Version 1
Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	% M/M
		Method No	WSLM59*
		Accreditation	UKAS/MMO
			Total Organic Carbon
Client Reference:	SOCOTEC Ref:	Matrix	-
S05 0.70m	MAR02562.001	Sediment	0.47
S06 0.90m	MAR02562.002	Sediment	3.18
S06 0.00m	MAR02562.003	Sediment	2.87
S07 0.00m	MAR02562.004	Sediment	2.73
S07 1.00m	MAR02562.005	Sediment	0.53
S07 2.00m	MAR02562.006	Sediment	2.60

* See Report Notes

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Test Report ID MAR02562
Issue Version 1
Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	mg/Kg (Dry Weight)							
		Method No	ICPMSS*							
		Limit of Detection	0.5	0.04	0.5	0.5	0.01	0.5	0.5	2
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic (As)**	**Cadmium (Cd)**	**Chromium (Cr)**	**Copper (Cu)**	**Mercury (Hg)**	**Nickel (Ni)**	**Lead (Pb)**	**Zinc (Zn)**
S05 0.70m	MAR02562.001	Sediment	10.9	0.18	12.5	12.7	0.11	17.0	18.9	45.4
S06 0.90m	MAR02562.002	Sediment	38.7	0.40	75.1	89.5	4.56	24.0	346	264
S06 0.00m	MAR02562.003	Sediment	47.4	0.40	78.4	99.9	5.23	26.5	370	281
S07 0.00m	MAR02562.004	Sediment	9.1	0.28	20.9	28.3	0.72	11.4	73.7	86.2
S07 1.00m	MAR02562.005	Sediment	6.6	0.24	14.4	25.7	0.34	9.7	49.7	69.7
S07 2.00m	MAR02562.006	Sediment	11.4	0.48	38.6	51.5	0.78	23.8	79.4	167
Certified Reference Material SETOC 768 (% Recovery)			99	107	98	102	100	103	101	103
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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Test Report ID MAR02562
Issue Version 1
Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S05 0.70m	MAR02562.001	Sediment	0.004	0.006
S06 0.90m	MAR02562.002	Sediment	<0.005	<0.005
S06 0.00m	MAR02562.003	Sediment	<0.005	<0.005
S07 0.00m	MAR02562.004	Sediment	<0.005	0.008
S07 1.00m	MAR02562.005	Sediment	0.005	0.004
S07 2.00m	MAR02562.006	Sediment	0.020	0.023
Certified Reference Material BCR-646 (% Recovery)			111	108
QC Blank			<0.001	<0.001

* See Report Notes

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Test Report ID MAR02562
Issue Version 1
Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BEP**
S05 0.70m	MAR02562.001	Sediment	83.6	78.5	310	1060	1260	1000	701	787
S06 0.90m	MAR02562.002	Sediment	812	287	1650	4990	5330	4390	2860	3460
S06 0.00m	MAR02562.003	Sediment	581	243	1090	2910	3390	2990	1920	2410
S07 0.00m	MAR02562.004	Sediment	213	190	526	1940	2390	1840	1410	1450
S07 1.00m	MAR02562.005	Sediment	221	67.3	273	892	1110	869	657	684
S07 2.00m	MAR02562.006	Sediment	218	222	418	1390	1910	1550	1260	1250
Certified Reference Material Nist 1941b (% Recovery)			68	114	68	71	61	87	78	88
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Test Report ID MAR02562
Issue Version 1
Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BKF***	**C1N**	**C1PHEN**	**C2N**	**C3N**	**CHRYSENE***	**DBENZAH**	**FLUORANT**
S05 0.70m	MAR02562.001	Sediment	981	165	393	138	143	1140	166	2190
S06 0.90m	MAR02562.002	Sediment	4190	532	2100	561	573	5700	707	13300
S06 0.00m	MAR02562.003	Sediment	2720	538	1420	561	538	3540	481	7820
S07 0.00m	MAR02562.004	Sediment	1780	322	797	275	322	2060	309	3950
S07 1.00m	MAR02562.005	Sediment	856	132	394	117	122	944	150	1840
S07 2.00m	MAR02562.006	Sediment	1520	234	670	247	273	1660	269	3290
Certified Reference Material Nist 1941b (% Recovery)			72	74	81	110	128	88	125	80
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

*See report notes

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Test Report ID MAR02562
Issue Version 1
Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**FLUORENE**	**INDPYR**	**NAPTH**	**PERYLENE**	**PHENANT**	**PYRENE**
S05 0.70m	MAR02562.001	Sediment	102	711	146	355	671	1890
S06 0.90m	MAR02562.002	Sediment	844	3090	646	1490	4170	10400
S06 0.00m	MAR02562.003	Sediment	619	1980	498	947	2670	5670
S07 0.00m	MAR02562.004	Sediment	241	1560	366	680	1550	3340
S07 1.00m	MAR02562.005	Sediment	165	688	106	338	954	1510
S07 2.00m	MAR02562.006	Sediment	213	1310	182	581	1290	2780
Certified Reference Material Nist 1941b (% Recovery)			53	84	60	60	77	69
QC Blank			<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

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Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 101**	**PCB 105**	**PCB 110**	**PCB 118**	**PCB 128**	**PCB 138**	**PCB 141**
S05 0.70m	MAR02562.001	Sediment	0.00014	<0.00008	0.00015	0.00016	<0.00008	0.00014	<0.00008
S06 0.90m	MAR02562.002	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
S06 0.00m	MAR02562.003	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
S07 0.00m	MAR02562.004	Sediment	0.00060	0.00024	0.00084	0.00054	0.00013	0.00062	0.00016
S07 1.00m	MAR02562.005	Sediment	0.00034	<0.00008	0.00047	0.00025	<0.00008	0.00022	0.00011
S07 2.00m	MAR02562.006	Sediment	0.00197	0.00077	0.00258	0.00191	0.00024	0.00112	0.00013
Certified Reference Material Nist 1941b (% Recovery)			89	99	118	102	109	84	115~
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 149**	**PCB 151**	**PCB 153**	**PCB 156**	**PCB 158**	**PCB 170**	**PCB 18**
S05 0.70m	MAR02562.001	Sediment	0.00009	<0.00008	0.00016	<0.00008	<0.00008	<0.00008	0.00014
S06 0.90m	MAR02562.002	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
S06 0.00m	MAR02562.003	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
S07 0.00m	MAR02562.004	Sediment	0.00069	0.00025	0.00089	<0.00008	0.00016	0.00013	0.00032
S07 1.00m	MAR02562.005	Sediment	0.00036	0.00013	0.00052	<0.00008	<0.00008	0.00009	0.00020
S07 2.00m	MAR02562.006	Sediment	0.00135	0.00040	0.00196	0.00014	0.00029	0.00029	0.02579
Certified Reference Material Nist 1941b (% Recovery)			100	115~	102	83	69	102	92
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02562
Issue Version 1
Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 180**	**PCB 183**	**PCB 187**	**PCB 194**	**PCB 28**	**PCB 31**	**PCB 44**
S05 0.70m	MAR02562.001	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	0.00033	0.00021	0.00014
S06 0.90m	MAR02562.002	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
S06 0.00m	MAR02562.003	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
S07 0.00m	MAR02562.004	Sediment	0.00037	<0.00008	0.00024	0.00011	0.00075	0.00049	0.00050
S07 1.00m	MAR02562.005	Sediment	0.00016	0.00009	0.00014	0.00008	0.00044	0.00029	0.00025
S07 2.00m	MAR02562.006	Sediment	0.00059	0.00017	0.00037	0.00020	0.02459	0.02671	0.00949
Certified Reference Material Nist 1941b (% Recovery)			89	63	81	96	77	98	111
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

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Issue Version 1
Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 47**	**PCB 49**	**PCB 52**	**PCB 66**
S05 0.70m	MAR02562.001	Sediment	<0.00008	0.00011	0.00021	0.00018
S06 0.90m	MAR02562.002	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
S06 0.00m	MAR02562.003	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
S07 0.00m	MAR02562.004	Sediment	0.00021	0.00046	0.00059	0.00069
S07 1.00m	MAR02562.005	Sediment	0.00016	0.00025	0.00026	0.00034
S07 2.00m	MAR02562.006	Sediment	0.00268	0.00887	0.00914	0.00971
Certified Reference Material Nist 1941b (% Recovery)			104~	113	108	118
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

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Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID MAR02562
Issue Version 1
Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
S05 0.70m	MAR02562.001	Sediment	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0003	<0.0001	0.0002
S06 0.90m	MAR02562.002	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
S06 0.00m	MAR02562.003	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
S07 0.00m	MAR02562.004	Sediment	<0.0001	<0.0001	<0.0001	0.0004	<0.0001	0.0009	0.0005	0.0003
S07 1.00m	MAR02562.005	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	0.0003	<0.0001
S07 2.00m	MAR02562.006	Sediment	<0.0001	<0.0001	0.0003	0.0002	<0.0001	0.0011	0.0009	0.0003
Certified Reference Material Nist 1941b (% Recovery)			97~	92~	80~	90~	147	93	81	63
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

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Issue Version 1
Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO*	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE17**	**BDE28**	**BDE47**	**BDE66**	**BDE85**	**BDE99**	**BDE100**	**BDE138**
S05 0.70m	MAR02562.001	Sediment	<0.00005	<0.00005	0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
S06 0.90m	MAR02562.002	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
S06 0.00m	MAR02562.003	Sediment	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025
S07 0.00m	MAR02562.004	Sediment	<0.00005	<0.00005	0.00010	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
S07 1.00m	MAR02562.005	Sediment	<0.00005	<0.00005	0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
S07 2.00m	MAR02562.006	Sediment	<0.00005	0.00005	0.00029	<0.00005	<0.00005	0.00008	0.00006	<0.00005
Certified Reference Material Quasimeme SED56 (% Recovery)			81~	98	107	100~	98~	70	108	96~
QC Blank			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

* See Report Notes

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Test Report ID MAR02562
Issue Version 1
Customer Reference Vibrocoring at Cory Jetty on the Thames

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.0001
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE153**	**BDE154**	**BDE183**	**BDE209**
S05 0.70m	MAR02562.001	Sediment	<0.00005	<0.00005	<0.00005	0.0017
S06 0.90m	MAR02562.002	Sediment	<0.00005	<0.00005	<0.00005	<0.0006
S06 0.00m	MAR02562.003	Sediment	<0.00025	<0.00025	<0.00025	0.0010
S07 0.00m	MAR02562.004	Sediment	<0.00005	<0.00005	<0.00005	0.0127
S07 1.00m	MAR02562.005	Sediment	<0.00005	<0.00005	<0.00005	0.0251
S07 2.00m	MAR02562.006	Sediment	<0.00005	0.00018	0.00033	0.5769
Certified Reference Material Quasimeme SED56 (% Recovery)			109	96~	100	99
QC Blank			<0.00005	<0.00005	<0.00005	<0.0006*

* See Report Notes

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Test Report ID MAR02562
Issue Version 1
Customer Reference Vibrocoring at Cory Jetty on the Thames

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
WSLM59*	MAR02562.001-006	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ICPMSS*	MAR02562.001-006	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ASC/SOP/301	MAR02562.002-004	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR02562.001-006	Benzo[k]fluoranthene is known to coelute with Benzo[j]fluoranthene and these peaks can not be resolved. It is believed Benzo[j]fluoranthene is present in these samples therefore it is suggested that the Benzo[k]fluoranthene results should be taken as a Benzo[k]fluoranthene (inc. Benzo[j]fluoranthene). Benzo[j]fluoranthene is not UKAS accredited. This should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR02562.001-006	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved in the PAHSED UKAS accredited method. Chrysene and Triphenylene are resolved for MMO but this is currently not UKAS accredited therefore Chrysene is reported without this acccreditation.
ASC/SOP/308	MAR02562.003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/308	MAR02562.001-006	The Primary process control data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with one or more target analytes falling outside acceptable limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected.However in line with our QMS policy we have removed accreditation, where applicable, from the affected analytes (BDE99) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/308	MAR02562.001-006	The Primary process control blank data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with BDE209 falling above acceptable reporting limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected.However in line with our QMS policy the report limit for this compound has been raised and samples have been blank subtracted.

DEVIATING SAMPLE STATEMENT

Deviation Code	Deviation Definition	Sample ID	Deviation Details. The following information should be taken into consideration when using the data contained within this report
D1	Holding Time Exceeded	N/A	N/A
D2	Sample Contaminated through Damaged Packaging	N/A	N/A
D3	Sample Contaminated through Sampling	N/A	N/A
D4	Inappropriate Container/Packaging	N/A	N/A
D5	Damaged in Transit	N/A	N/A
D6	Insufficient Quantity of Sample	N/A	N/A
D7	Inappropriate Headspace	N/A	N/A
D8	Retained at Incorrect Temperature	N/A	N/A
D9	Lack of Date & Time of Sampling	N/A	N/A
D10	Insufficient Sample Details	N/A	N/A
D11	Sample integrity compromised or not suitable for analysis	N/A	N/A

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Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR02562
Issue Version	1
Customer Reference	Vibrocoring at Cory Jetty on the Thames

Method	Sample and Fraction Size	Method Summary
Total Organic Carbon (TOC)	Air dried	Carbonate removal and sulphurous acid/combustion at 1600°C/NDIR.
Metals	Air dried	Aqua-regia extraction followed by ICP analysis.
Organotins	Wet Sediment	Solvent extraction and derivatisation followed by GC-MS analysis.
Polyaromatic Hydrocarbons (PAH)	Wet Sediment	Solvent extraction and clean up followed by GC-MS analysis.
Total Hydrocarbon Content (THC)	Wet Sediment	Ultra-violet fluorescence spectroscopy
Polychlorinated Biphenyls (PCBs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Organochlorine Pesticides (OCPs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Brominated Flame Retardants (PBDEs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.

Analyte Definitions

Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name
ACENAPTH	Acenaphthene	C2N	C2-naphthalenes	THC	Total Hydrocarbon Content
ACENAPHY	Acenaphthylene	C3N	C3-naphthalenes	AHCH	alpha-Hexachlorocyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorocyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorocyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	PPDDE	p,p'-Dichlorodiphenyldichloroethylene
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	PPDDT	p,p'-Dichlorodiphenyltrichloroethane
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	PPTDE	p,p'-Dichlorodiphenyldichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

SOCOTEC

Test Report ID MAR01896

Issue Version: 1

Customer: WSP UK Ltd, London Square, 2 Cross Lanes, Guildford, GU1 1UN

Customer Reference: Post-Survey MMO Analysis

Date Sampled: 18-May-23

Date Samples Received: 22-May-23

Test Report Date: 16-Jun-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

[redacted]

Authorised by: [redacted]

Position: Customer Services Co-ordinator

UKAS TESTING
1252

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Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

		Units	% M/M	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	WSLM59*	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	MMO
			Total Organic Carbon	45mm	31.5mm	22.4mm	16mm	11.2mm	8mm
Client Reference:	SOCOTEC Ref:	Matrix	-	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0
Subtidal 7	MAR01896.001	Sediment	0.88	0.00	0.00	0.00	0.00	0.00	0.00
Subtidal 8	MAR01896.002	Sediment	2.37	0.00	0.00	0.00	0.00	0.00	0.00
Subtidal 9	MAR01896.003	Sediment	1.38	0.00	0.00	0.00	0.00	0.00	0.00
Subtidal 10	MAR01896.004	Sediment	1.48	0.00	0.00	0.00	0.00	0.00	0.06
Subtidal 11	MAR01896.005	Sediment	0.91	0.00	0.00	0.00	0.00	0.00	0.00
Subtidal 12	MAR01896.006	Sediment	0.76	0.00	0.00	0.00	0.00	0.00	0.00

* See Report Notes

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Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			5.6mm	4mm	2.8mm	2mm	1.4mm	1mm	707µm
Client Reference:	SOCOTEC Ref:	Matrix	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5
Subtidal 7	MAR01896.001	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Subtidal 8	MAR01896.002	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtidal 9	MAR01896.003	Sediment	0.00	0.01	0.02	0.03	0.02	0.03	0.32
Subtidal 10	MAR01896.004	Sediment	0.08	0.05	0.18	0.25	0.24	0.44	0.99
Subtidal 11	MAR01896.005	Sediment	0.07	0.07	0.20	0.47	0.56	0.51	4.77
Subtidal 12	MAR01896.006	Sediment	0.00	0.00	0.09	0.25	0.46	0.54	0.11

* See Report Notes

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Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			500µm	353.6µm	250µm	176.8µm	125µm	88.39µm	63µm
Client Reference:	SOCOTEC Ref:	Matrix	1.0	1.5	2.0	2.5	3.0	3.5	4.0
Subtidal 7	MAR01896.001	Sediment	0.78	1.43	2.58	3.98	12.50	9.70	6.26
Subtidal 8	MAR01896.002	Sediment	0.00	0.00	0.04	1.33	4.80	4.76	5.52
Subtidal 9	MAR01896.003	Sediment	1.12	1.64	2.50	22.86	39.99	21.46	4.37
Subtidal 10	MAR01896.004	Sediment	1.20	6.02	10.74	20.03	17.30	6.70	3.07
Subtidal 11	MAR01896.005	Sediment	4.28	4.96	3.02	12.67	29.26	22.18	6.00
Subtidal 12	MAR01896.006	Sediment	2.32	5.45	4.02	15.39	23.87	14.09	4.48

* See Report Notes

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Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			44.2µm	31.3µm	22.1µm	15.6µm	11µm	7.8µm	5.5µm
Client Reference:	SOCOTEC Ref:	Matrix	4.5	5.0	5.5	6.0	6.5	7.0	7.5
Subtidal 7	MAR01896.001	Sediment	6.43	6.35	6.20	5.46	5.65	6.62	6.72
Subtidal 8	MAR01896.002	Sediment	6.75	7.72	7.91	7.19	7.30	8.27	8.68
Subtidal 9	MAR01896.003	Sediment	1.00	0.68	0.50	0.37	0.45	0.46	0.39
Subtidal 10	MAR01896.004	Sediment	2.37	2.85	3.26	3.62	4.01	4.02	3.65
Subtidal 11	MAR01896.005	Sediment	1.83	1.15	1.14	0.88	0.96	1.14	1.07
Subtidal 12	MAR01896.006	Sediment	2.49	2.56	2.67	2.79	3.05	3.27	3.21

* See Report Notes

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Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			3.9µm	2.75µm	1.95µm	1.38µm	0.98µm	0.69µm	0.49µm
Client Reference:	SOCOTEC Ref:	Matrix	8.0	8.5	9.0	9.5	10.0	10.5	11.0
Subtidal 7	MAR01896.001	Sediment	5.45	3.63	2.18	1.51	1.26	1.12	1.03
Subtidal 8	MAR01896.002	Sediment	7.47	5.29	3.37	2.43	2.07	1.90	1.77
Subtidal 9	MAR01896.003	Sediment	0.29	0.20	0.17	0.18	0.20	0.19	0.16
Subtidal 10	MAR01896.004	Sediment	2.75	1.73	0.94	0.58	0.48	0.47	0.45
Subtidal 11	MAR01896.005	Sediment	0.82	0.52	0.33	0.31	0.30	0.24	0.15
Subtidal 12	MAR01896.006	Sediment	2.62	1.78	1.04	0.65	0.51	0.46	0.43

* See Report Notes

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Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			0.34µm	0.24µm	0.17µm	0.12µm	0.09µm	0.06µm	0.04µm
Client Reference:	SOCOTEC Ref:	Matrix	11.5	12.0	12.5	13.0	13.5	14.0	14.5
Subtidal 7	MAR01896.001	Sediment	0.92	0.79	0.60	0.45	0.28	0.11	0.01
Subtidal 8	MAR01896.002	Sediment	1.61	1.37	1.03	0.75	0.45	0.18	0.02
Subtidal 9	MAR01896.003	Sediment	0.13	0.10	0.08	0.06	0.04	0.02	0.00
Subtidal 10	MAR01896.004	Sediment	0.42	0.36	0.28	0.21	0.14	0.06	0.01
Subtidal 11	MAR01896.005	Sediment	0.08	0.04	0.02	0.01	0.00	0.00	0.00
Subtidal 12	MAR01896.006	Sediment	0.39	0.34	0.27	0.20	0.13	0.05	0.01

* See Report Notes

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Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

		Units	% (at 0.5phi intervals)
		Method No	*SUB_01
		Accreditation	MMO
			<0.04µm
Client Reference:	SOCOTEC Ref:	Matrix	>14.5
Subtidal 7	MAR01896.001	Sediment	0.00
Subtidal 8	MAR01896.002	Sediment	0.00
Subtidal 9	MAR01896.003	Sediment	0.00
Subtidal 10	MAR01896.004	Sediment	0.00
Subtidal 11	MAR01896.005	Sediment	0.00
Subtidal 12	MAR01896.006	Sediment	0.00

* See Report Notes

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Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

		Units	mg/Kg (Dry Weight)							
		Method No	ICPMSS*							
		Limit of Detection	0.5	0.04	0.5	0.5	0.01	0.5	0.5	2
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic (As)**	**Cadmium (Cd)**	**Chromium (Cr)**	**Copper (Cu)**	**Mercury (Hg)**	**Nickel (Ni)**	**Lead (Pb)**	**Zinc (Zn)**
Subtidal 7	MAR01896.001	Sediment	7.40	0.28	19.6	27.8	0.44	10.5	60.1	75.4
Subtidal 8	MAR01896.002	Sediment	12.0	0.36	44.9	45.6	0.53	25.1	72.1	145
Subtidal 9	MAR01896.003	Sediment	7.50	0.23	19.2	23.9	0.36	10.7	49.7	81.4
Subtidal 10	MAR01896.004	Sediment	8.40	0.26	19.9	25.8	0.43	12.0	64.5	78.2
Subtidal 11	MAR01896.005	Sediment	6.60	0.20	15.6	20.1	0.28	10.4	37.0	61.2
Subtidal 12	MAR01896.006	Sediment	6.00	0.32	12.6	20.6	0.40	6.70	46.3	53.0
Certified Reference Material SETOC 768 (% Recovery)			96	102	98	101	86	95	97	99
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
Subtidal 7	MA01896.001	Sediment	<0.005	<0.005
Subtidal 8	MA01896.002	Sediment	<0.005	<0.005
Subtidal 9	MA01896.003	Sediment	0.010	0.059
Subtidal 10	MA01896.004	Sediment	0.012	0.014
Subtidal 11	MA01896.005	Sediment	0.031	0.072
Subtidal 12	MA01896.006	Sediment	0.012	<0.005
Certified Reference Material BCR-646 (% Recovery)			59	66
QC Blank			<0.001	<0.001

* See Report Notes

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Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO*
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BEP**
Subtidal 7	MA01896.001	Sediment	96.4	65.9	233	594	730	596	445	421
Subtidal 8	MA01896.002	Sediment	45.2	61.4	97.3	302	484	454	410	332
Subtidal 9	MA01896.003	Sediment	44.9	40.7	96.0	275	296	272	207	186
Subtidal 10	MA01896.004	Sediment	131	129	302	983	1080	896	635	594
Subtidal 11	MA01896.005	Sediment	225	133	444	1060	1170	906	674	659
Subtidal 12	MA01896.006	Sediment	23.9	30.1	61.4	149	222	204	166	139
Certified Reference Material Nist 1941b (% Recovery)			94	104	65	65	61	81	69	76
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Test Report ID MAR01896
Issue Version 1
Customer Reference Post-Survey MMO Analysis

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BKF***	**C1N**	**C1PHEN**	**C2N**	**C3N**	**CHRYSENE***	**DBENZAH**	**FLUORANT**
Subtidal 7	MA01896.001	Sediment	588	77.2	331	81.7	96.8	635	103	1380
Subtidal 8	MA01896.002	Sediment	424	95.3	166	91.3	89.9	356	80.9	639
Subtidal 9	MA01896.003	Sediment	259	93.0	176	80.4	83.8	285	46.8	837
Subtidal 10	MA01896.004	Sediment	876	392	577	331	306	923	165	1620
Subtidal 11	MA01896.005	Sediment	848	1210	2650	1170	1060	1140	153	1960
Subtidal 12	MA01896.006	Sediment	189	42.9	79.8	49.1	38.1	177	37.1	301
Certified Reference Material Nist 1941b (% Recovery)			81	75	80	103	114	89	119	80
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

*See report notes

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Test Report ID MAR01896
Issue Version 1
Customer Reference Post-Survey MMO Analysis

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	mg/Kg
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/305
		Limit of Detection	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**FLUORENE**	**INDPYR**	**NAPTH**	**PERYLENE**	**PHENANT**	**PYRENE**	**THC**
Subtidal 7	MA01896.001	Sediment	104	515	63.3	167	771	1090	462
Subtidal 8	MA01896.002	Sediment	49.8	454	49.3	164	255	593	30.5
Subtidal 9	MA01896.003	Sediment	38.0	253	50.9	84.4	210	594	156
Subtidal 10	MA01896.004	Sediment	144	791	302	248	649	1300	643
Subtidal 11	MA01896.005	Sediment	297	772	244	254	1920	1720	458
Subtidal 12	MA01896.006	Sediment	30.3	203	35.7	90.1	140	255	147
Certified Reference Material Nist 1941b (% Recovery)			52	66	57	50	77	71	98~
QC Blank			<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

*See report notes

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Test Report ID MAR01896
Issue Version 1
Customer Reference Post-Survey MMO Analysis

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 101**	**PCB 105**	**PCB 110**	**PCB 118**	**PCB 128**	**PCB 138**	**PCB 141**
Subtidal 7	MA01896.001	Sediment	0.00042	0.00014	0.00059	0.00030	0.00010	0.00043	<0.00008
Subtidal 8	MA01896.002	Sediment	0.00108	0.00017	0.00164	0.00070	0.00023	0.00119	<0.00008
Subtidal 9	MA01896.003	Sediment	0.00075	0.00016	0.00087	0.00066	0.00029	0.00173	0.00052
Subtidal 10	MA01896.004	Sediment	0.00063	0.00026	0.00085	0.00075	0.00016	0.00080	0.00008
Subtidal 11	MA01896.005	Sediment	0.00083	0.00029	0.00120	0.00097	0.00008	0.00044	0.00012
Subtidal 12	MA01896.006	Sediment	0.00013	<0.00008	0.00018	0.00011	<0.00008	0.00017	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			96	72	104	103	109	99	106~
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR01896
Issue Version 1
Customer Reference Post-Survey MMO Analysis

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO*
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 149**	**PCB 151**	**PCB 153**	**PCB 156**	**PCB 158**	**PCB 170**	**PCB 18**
Subtidal 7	MA01896.001	Sediment	0.00035	0.00016	0.00055	<0.00008	<0.00008	0.00017	0.00024
Subtidal 8	MA01896.002	Sediment	0.00128	0.00036	0.00233	0.00010	0.00016	0.00040	0.00021
Subtidal 9	MA01896.003	Sediment	0.00167	0.00057	0.00211	0.00020	0.00031	0.00104	0.00014
Subtidal 10	MA01896.004	Sediment	0.00066	0.00018	0.00091	0.00012	0.00015	0.00017	0.00033
Subtidal 11	MA01896.005	Sediment	0.00060	0.00016	0.00076	0.00009	<0.00008	0.00016	0.00024
Subtidal 12	MA01896.006	Sediment	0.00018	<0.00008	0.00025	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			78	104~	87	88	107	110	73
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR01896
Issue Version 1
Customer Reference Post-Survey MMO Analysis

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	MMO*	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 180**	**PCB 183**	**PCB 187**	**PCB 194**	**PCB 28**	**PCB 31**	**PCB 44**
Subtidal 7	MA01896.001	Sediment	0.00033	0.00008	0.00020	0.00009	0.00050	0.00042	0.00039
Subtidal 8	MA01896.002	Sediment	0.00093	0.00022	0.00065	0.00035	0.00064	0.00049	0.00069
Subtidal 9	MA01896.003	Sediment	0.00205	0.00034	0.00090	0.00031	0.00037	0.00027	0.00031
Subtidal 10	MA01896.004	Sediment	0.00037	0.00009	0.00024	<0.00008	0.00083	0.00073	0.00056
Subtidal 11	MA01896.005	Sediment	0.00038	0.00013	0.00022	0.00014	0.00058	0.00049	0.00048
Subtidal 12	MA01896.006	Sediment	0.00013	<0.00008	0.00015	<0.00008	0.00012	0.00009	0.00011
Certified Reference Material Nist 1941b (% Recovery)			95	59	93	94	70	100	101
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 47**	**PCB 49**	**PCB 52**	**PCB 66**
Subtidal 7	MA01896.001	Sediment	0.00016	0.00043	0.00060	0.00062
Subtidal 8	MA01896.002	Sediment	0.00045	0.00091	0.00129	0.00120
Subtidal 9	MA01896.003	Sediment	0.00013	0.00031	0.00049	0.00050
Subtidal 10	MA01896.004	Sediment	0.00025	0.00057	0.00087	0.00081
Subtidal 11	MA01896.005	Sediment	0.00018	0.00046	0.00089	0.00071
Subtidal 12	MA01896.006	Sediment	<0.00008	0.00009	0.00016	0.00011
Certified Reference Material Nist 1941b (% Recovery)			104~	101	116	106
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR01896
Issue Version 1
Customer Reference Post-Survey MMO Analysis

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
Subtidal 8	MA01896.002	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0009	0.0014	0.0004
Subtidal 9	MA01896.003	Sediment	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	0.0005	0.0004	0.0002
Subtidal 10	MA01896.004	Sediment	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0016	0.0006	<0.0001
Subtidal 12	MA01896.006	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0018
Certified Reference Material Nist 1941b (% Recovery)			103~	54~	51~	94~	100	102	87	34
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

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Test Report ID MAR01896
Issue Version 1
Customer Reference Post-Survey MMO Analysis

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO*	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE17**	**BDE28**	**BDE47**	**BDE66**	**BDE85**	**BDE99**	**BDE100**	**BDE138**
Subtidal 7	MA01896.001	Sediment	<0.00005	<0.00005	0.00006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Subtidal 8	MA01896.002	Sediment	<0.00005	0.000127	0.00042	<0.00005	<0.00005	0.00015	0.00007	<0.00005
Subtidal 9	MA01896.003	Sediment	<0.00005	<0.00005	0.00011	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Subtidal 10	MA01896.004	Sediment	<0.00005	<0.00005	0.00015	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Subtidal 11	MA01896.005	Sediment	<0.00005	<0.00005	0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Subtidal 12	MA01896.006	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Certified Reference Material QBC063MS (% Recovery)			88~	132	102	89~	97~	66	99	114~
QC Blank			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

* See Report Notes

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Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.0001
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE153**	**BDE154**	**BDE183**	**BDE209**
Subtidal 7	MA01896.001	Sediment	<0.00005	<0.00005	<0.00005	0.013
Subtidal 8	MA01896.002	Sediment	0.00007	0.000124	0.000281	0.158
Subtidal 9	MA01896.003	Sediment	<0.00005	<0.00005	<0.00005	0.032
Subtidal 10	MA01896.004	Sediment	<0.00005	<0.00005	<0.00005	0.033
Subtidal 11	MA01896.005	Sediment	<0.00005	<0.00005	<0.00005	0.004
Subtidal 12	MA01896.006	Sediment	<0.00005	<0.00005	<0.00005	0.013
Certified Reference Material QBC063MS (% Recovery)			97	111	78~	102
QC Blank			<0.00005	<0.00005	<0.00005	<0.0002

* See Report Notes

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Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID MAR01896
Issue Version 1
Customer Reference Post-Survey MMO Analysis

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
*SUB_01	MAR01896.001-006	Analysis was conducted by an approved subcontracted laboratory.
WSLM59*	MAR01896.001-006	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ICPMSS*	MAR01896.001-006	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ASC/SOP/301	MAR01896.001, .002, .006	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/302	MAR01896.001-006	The Primary process control data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with one or more target analytes falling outside acceptable limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected.However in line with our QMS policy we have removed accreditation, where applicable, from the affected analytes (PCB18, PCB183) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01896.001-006	Benzo[k]fluoranthene is known to coelute with Benzo[j]fluoranthene and these peaks can not be resolved. It is believed Benzo[j]fluoranthene is present in these samples therefore it is suggested that the Benzo[k]fluoranthene results should be taken as a Benzo[k]fluoranthene (inc. Benzo[j]fluoranthene). Benzo[j]fluoranthene is not UKAS accredited. This should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01896.001-006	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved in the PAHSED UKAS accredited method. Chrysene and Triphenylene are resolved for MMO but this is currently not UKAS accredited therefore Chrysene is reported without this acccreditation.
ASC/SOP/303/304	MAR01896.001-006	The Primary process control data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with one or more target analytes falling outside acceptable limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected.However in line with our QMS policy we have removed accreditation, where applicable, from the affected analytes (BEP) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/308	MAR01896.001-006	The Primary process control data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with one or more target analytes falling outside acceptable limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected.However in line with our QMS policy we have removed accreditation, where applicable, from the affected analytes (PBDE99) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/308	MAR01896.001-006	The Primary process control blank data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with BDE209 falling above acceptable reporting limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected.However in line with our QMS policy the report limit for this compound has been raised and samples have been blank subtracted.

DEVIATING SAMPLE STATEMENT

Deviation Code	Deviation Definition	Sample ID	Deviation Details. The following information should be taken into consideration when using the data contained within this report
D1	Holding Time Exceeded	N/A	N/A
D2	Sample Contaminated through Damaged Packaging	N/A	N/A
D3	Sample Contaminated through Sampling	N/A	N/A
D4	Inappropriate Container/Packaging	N/A	N/A
D5	Damaged in Transit	N/A	N/A
D6	Insufficient Quantity of Sample	N/A	N/A
D7	Inappropriate Headspace	N/A	N/A
D8	Retained at Incorrect Temperature	N/A	N/A
D9	Lack of Date & Time of Sampling	N/A	N/A
D10	Insufficient Sample Details	N/A	N/A
D11	Sample integrity compromised or not suitable for analysis	N/A	N/A

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Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR01896
Issue Version	1
Customer Reference	Post-Survey MMO Analysis

Method	Sample and Fraction Size	Method Summary
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Total Organic Carbon (TOC)	Air dried	Carbonate removal and sulphurous acid/combustion at 1600°C/NDIR.
Metals	Air dried	Aqua-regia extraction followed by ICP analysis.
Organotins	Wet Sediment	Solvent extraction and derivatisation followed by GC-MS analysis.
Polyaromatic Hydrocarbons (PAH)	Wet Sediment	Solvent extraction and clean up followed by GC-MS analysis.
Total Hydrocarbon Content (THC)	Wet Sediment	Ultra-violet fluorescence spectroscopy
Polychlorinated Biphenyls (PCBs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Organochlorine Pesticides (OCPs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Brominated Flame Retardants (PBDEs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.

Analyte Definitions

Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name
ACENAPTH	Acenaphthene	C2N	C2-naphthalenes	THC	Total Hydrocarbon Content
ACENAPHY	Acenaphthylene	C3N	C3-naphthalenes	AHCH	alpha-Hexachlorocyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorocyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorocyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	PPDDE	p,p'-Dichlorodiphenyldichloroethylene
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	PPDDT	p,p'-Dichlorodiphenyltrichloroethane
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	PPTDE	p,p'-Dichlorodiphenyldichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

SOCOTEC

Test Report ID **MAR02044**

Issue Version: 1

Customer: WSP UK Limited, First Floor, 3 Wellington Place, Leeds, LS1 4AP

Customer Reference: Post Survey

Date Sampled: 21-Sep-23

Date Samples Received: 25-Sep-23

Test Report Date: 23-Oct-23

Condition of samples: Cold Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

[redacted]

Authorised by: [redacted]

Position: Customer Service Specialist

UKAS TESTING
1252

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Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	% M/M	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	WSLM59*	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	MMO
			Total Organic Carbon	**45mm**	**31.5mm**	**22.4mm**	**16mm**	**11.2mm**	**8mm**
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**-**	**-5.5**	**-5.0**	**-4.5**	**-4.0**	**-3.5**	**-3.0**
S13	MAR02044.001	Sediment	2.04	0.00	0.00	0.00	0.00	0.00	0.00
S14	MAR02044.002	Sediment	0.70	0.00	0.00	0.00	0.00	0.00	0.00
S15	MAR02044.003	Sediment	1.42	0.00	0.00	7.81	21.24	7.10	3.82

* See Report Notes

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			5.6mm	**4mm**	**2.8mm**	**2mm**	**1.4mm**	**1mm**	**707µm**
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**-2.5**	**-2.0**	**-1.5**	**-1.0**	**-0.5**	**0.0**	**0.5**
S13	MAR02044.001	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S14	MAR02044.002	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S15	MAR02044.003	Sediment	2.58	1.72	0.65	0.38	0.28	0.22	0.00

* See Report Notes

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			500µm	**353.6µm**	**250µm**	**176.8µm**	**125µm**	**88.39µm**	**63µm**
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**1.0**	**1.5**	**2.0**	**2.5**	**3.0**	**3.5**	**4.0**
S13	MAR02044.001	Sediment	0.00	0.16	2.66	4.30	7.24	4.36	3.70
S14	MAR02044.002	Sediment	0.00	0.00	0.01	1.52	5.23	2.85	7.05
S15	MAR02044.003	Sediment	0.00	0.02	0.22	2.37	2.50	2.30	5.02

* See Report Notes

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			44.2µm	**31.3µm**	**22.1µm**	**15.6µm**	**11µm**	**7.8µm**	**5.5µm**
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**	**7.5**
S13	MAR02044.001	Sediment	6.64	6.66	7.16	7.03	6.85	7.68	8.10
S14	MAR02044.002	Sediment	11.19	9.46	7.75	6.13	4.88	5.73	7.00
S15	MAR02044.003	Sediment	5.44	4.09	3.65	3.94	4.44	4.74	4.46

* See Report Notes

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			3.9µm	**2.75µm**	**1.95µm**	**1.38µm**	**0.98µm**	**0.69µm**	**0.49µm**
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**8.0**	**8.5**	**9.0**	**9.5**	**10.0**	**10.5**	**11.0**
S13	MAR02044.001	Sediment	6.97	4.94	3.10	2.16	1.84	1.73	1.64
S14	MAR02044.002	Sediment	6.83	5.31	3.89	3.21	2.66	2.14	1.82
S15	MAR02044.003	Sediment	3.39	2.10	1.13	0.71	0.62	0.62	0.60

* See Report Notes

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			0.34µm	**0.24µm**	**0.17µm**	**0.12µm**	**0.09µm**	**0.06µm**	**0.04µm**
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**11.5**	**12.0**	**12.5**	**13.0**	**13.5**	**14.0**	**14.5**
S13	MAR02044.001	Sediment	1.50	1.28	0.97	0.70	0.43	0.17	0.02
S14	MAR02044.002	Sediment	1.64	1.40	1.02	0.70	0.40	0.15	0.02
S15	MAR02044.003	Sediment	0.55	0.46	0.35	0.26	0.16	0.06	0.01

* See Report Notes

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	% (at 0.5phi intervals)
		Method No	*SUB_01
		Accreditation	MMO
			<0.04µm
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**>14.5**
S13	MAR02044.001	Sediment	0.00
S14	MAR02044.002	Sediment	0.00
S15	MAR02044.003	Sediment	0.00

* See Report Notes

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	mg/Kg (Dry Weight)							
		Method No	ICPMSS*							
		Limit of Detection	0.5	0.04	0.5	0.5	0.01	0.5	0.5	2
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic (As)**	**Cadmium (Cd)**	**Chromium (Cr)**	**Copper (Cu)**	**Mercury (Hg)**	**Nickel (Ni)**	**Lead (Pb)**	**Zinc (Zn)**
S13	MAR02044.001	Sediment	33.7	0.32	69.2	78.6	4.71	21.5	320	216
S14	MAR02044.002	Sediment	11.6	0.50	32.8	28.0	0.10	49.5	17.4	86.4
S15	MAR02044.003	Sediment	9.9	0.15	19.6	11.8	0.18	14.2	35.7	63.0
Certified Reference Material SETOC 768 (% Recovery)			102	105	106	101	111	104	104	106
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S13	MAR02044.001	Sediment	<0.005	<0.005
S14	MAR02044.002	Sediment	<0.005	<0.005
S15	MAR02044.003	Sediment	<0.005	<0.005
Certified Reference Material BCR-646 (% Recovery)			59	57
QC Blank			<0.001	<0.001

* See Report Notes

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Test Report ID MAR02044
Issue Version 1
Customer Reference Post Survey

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BEP**
S13	MAR02044.001	Sediment	425	210	1160	3350	3990	3240	2230	2270
S14	MAR02044.002	Sediment	125	24.4	116	408	494	387	260	280
S15	MAR02044.003	Sediment	9.50	19.0	23.3	65.4	113	104	94.8	81.2
Certified Reference Material Nist 1941b (% Recovery)			103	119	72	68	64	85	80	82
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BKF***	**C1N**	**C1PHEN**	**C2N**	**C3N**	**CHRYSENE***	**DBENZAH**	**FLUORANT**
S13	MAR02044.001	Sediment	3050	384	1390	393	377	3550	575	7660
S14	MAR02044.002	Sediment	361	17.7	251	36.9	65.5	416	70.1	955
S15	MAR02044.003	Sediment	101	47.7	66.1	55.8	49.9	79.8	17.9	119
Certified Reference Material Nist 1941b (% Recovery)			83	82	92	110	120	89	109	82
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	mg/Kg
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/305
		Limit of Detection	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**FLUORENE**	**INDPYR**	**NAPTH**	**PERYLENE**	**PHENANT**	**PYRENE**	**THC**
S13	MAR02044.001	Sediment	511	2330	365	926	2790	5660	482
S14	MAR02044.002	Sediment	112	286	15.6	106	695	750	6.78
S15	MAR02044.003	Sediment	12.4	100	19.3	157	62.5	113	17.2
Certified Reference Material Nist 1941b (% Recovery)			55	76	60	54	80	70	89~
QC Blank			<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 101**	**PCB 105**	**PCB 110**	**PCB 118**	**PCB 128**	**PCB 138**	**PCB 141**
S13	MAR02044.001	Sediment	<0.00008	<0.00008	0.00011	<0.00008	<0.00008	0.00009	<0.00008
S14	MAR02044.002	Sediment	<0.00008	<0.00008	0.00009	<0.00008	<0.00008	0.00009	<0.00008
S15	MAR02044.003	Sediment	0.00019	0.00009	0.00033	0.00024	0.00010	0.00040	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			88	90	92	78	94	100	100~
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

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Test Report ID MAR02044
Issue Version 1
Customer Reference Post Survey

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO*	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 149**	**PCB 151**	**PCB 153**	**PCB 156**	**PCB 158**	**PCB 170**	**PCB 18**
S13	MAR02044.001	Sediment	0.00009	<0.00008	0.00012	<0.00008	<0.00008	<0.00008	<0.00008
S14	MAR02044.002	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
S15	MAR02044.003	Sediment	0.00027	<0.00008	0.00031	<0.00008	<0.00008	0.00010	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			83	105~	95	62	85	73	85
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 180**	**PCB 183**	**PCB 187**	**PCB 194**	**PCB 28**	**PCB 31**	**PCB 44**
S13	MAR02044.001	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
S14	MAR02044.002	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
S15	MAR02044.003	Sediment	0.00014	<0.00008	0.00011	<0.00008	0.00014	0.00009	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			86	60	81	86	60	91	79
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02044
Issue Version 1
Customer Reference Post Survey

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 47**	**PCB 49**	**PCB 52**	**PCB 66**
S13	MAR02044.001	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
S14	MAR02044.002	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
S15	MAR02044.003	Sediment	<0.00008	0.00009	0.00014	0.00012
Certified Reference Material Nist 1941b (% Recovery)			99~	92	85	95
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
S13	MAR02044.001	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
S14	MAR02044.002	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0006
S15	MAR02044.003	Sediment	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0001	0.0002	<0.0001
Certified Reference Material Nist 1941b (% Recovery)			99~	75~	57~	97~	109	43	97	91
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE17**	**BDE28**	**BDE47**	**BDE66**	**BDE85**	**BDE99**	**BDE100**	**BDE138**
S13	MAR02044.001	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
S14	MAR02044.002	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
S15	MAR02044.003	Sediment	<0.00005	<0.00005	0.00008	<0.00005	<0.00005	0.00007	<0.00005	<0.00005
Certified Reference Material Quasimeme Sed56 (% Recovery)			93~	102	108	99~	97~	91	103	88~
QC Blank			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

* See Report Notes

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.0001
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE153**	**BDE154**	**BDE183**	**BDE209**
S13	MAR02044.001	Sediment	<0.00005	<0.00005	<0.00005	0.0023
S14	MAR02044.002	Sediment	<0.00005	<0.00005	<0.00005	0.0004
S15	MAR02044.003	Sediment	<0.00005	<0.00005	<0.00005	0.0282
Certified Reference Material Quasimeme Sed56 (% Recovery)			101	117	96	89
QC Blank			<0.00005	<0.00005	<0.00005	<0.0001

* See Report Notes

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Test Report ID MAR02044
Issue Version 1
Customer Reference Post Survey

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
*SUB_01	MAR02044.001-003	Analysis was conducted by an approved subcontracted laboratory.
WSLM59*	MAR02044.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ICPMSS*	MAR02044.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ASC/SOP/301	MAR02044.001-003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/302	MAR02044.001-003	The Primary process control data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with one or more target analytes falling outside acceptable limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected.However in line with our QMS policy we have removed accreditation, where applicable, from the affected analytes (PCB170) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR02044.001-003	Benzo[k]fluoranthene is known to coelute with Benzo[j]fluoranthene and these peaks can not be resolved. It is believed Benzo[j]fluoranthene is present in these samples therefore it is suggested that the Benzo[k]fluoranthene results should be taken as a Benzo[k]fluoranthene (inc. Benzo[j]fluoranthene). Benzo[j]fluoranthene is not UKAS accredited. This should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR02044.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved in the PAHSED UKAS accredited method. Chrysene and Triphenylene are resolved for MMO but this is currently not UKAS accredited therefore Chrysene is reported without this acccreditation.

DEVIATING SAMPLE STATEMENT

Deviation Code	Deviation Definition	Sample ID	Deviation Details. The following information should be taken into consideration when using the data contained within this report
D1	Holding Time Exceeded	N/A	N/A
D2	Sample Contaminated through Damaged Packaging	N/A	N/A
D3	Sample Contaminated through Sampling	N/A	N/A
D4	Inappropriate Container/Packaging	N/A	N/A
D5	Damaged in Transit	N/A	N/A
D6	Insufficient Quantity of Sample	N/A	N/A
D7	Inappropriate Headspace	N/A	N/A
D8	Retained at Incorrect Temperature	N/A	N/A
D9	Lack of Date & Time of Sampling	N/A	N/A
D10	Insufficient Sample Details	N/A	N/A
D11	Sample integrity compromised or not suitable for analysis	N/A	N/A

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Test Report ID	MAR02044
Issue Version	1
Customer Reference	Post Survey

Method	Sample and Fraction Size	Method Summary
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Total Organic Carbon (TOC)	Air dried	Carbonate removal and sulphurous acid/combustion at 1600°C/NDIR.
Metals	Air dried	Aqua-regia extraction followed by ICP analysis.
Organotins	Wet Sediment	Solvent extraction and derivatisation followed by GC-MS analysis.
Polyaromatic Hydrocarbons (PAH)	Wet Sediment	Solvent extraction and clean up followed by GC-MS analysis.
Total Hydrocarbon Content (THC)	Wet Sediment	Ultra-violet fluorescence spectroscopy
Polychlorinated Biphenyls (PCBs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Organochlorine Pesticides (OCPs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Brominated Flame Retardants (PBDEs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.

Analyte Definitions

Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name
ACENAPTH	Acenaphthene	C2N	C2-naphthalenes	THC	Total Hydrocarbon Content
ACENAPHY	Acenaphthylene	C3N	C3-naphthalenes	AHCH	alpha-Hexachlorocyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorocyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorocyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	PPDDE	p,p'-Dichlorodiphenyldichloroethylene
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	PPDDT	p,p'-Dichlorodiphenyltrichloroethane
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	PPTDE	p,p'-Dichlorodiphenyldichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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Appendix B

Sediment Results Screening Sheet

Site Name: Cory Decarbonisation
Job Number: EN010128
Screening Criteria: CEFAS

Analyte	No. Samples	AL1 mg/kg	AL2 mgkg	Min mg/kg	Max mg/kg	#AL1 Exceed	# AL2 Exceed	S13	S14	S15	Subtidal 7	Subtidal 8	Subtidal 9	Subtidal 10	Subtidal 11	Subtidal 12	Intertidal 1	Intertidal 2	Intertidal 3	Intertidal 4	Intertidal 5	Intertidal 6	S05	S06	S06	S07	S07	S07
								0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.7m	0.0m	0.9m	0.0m	1.0m	2.0m
Arsenic (As)	21	20	100	6	47.4	21		33.7	11.6	9.9	7.40	12.0	7.50	8.40	6.60	6.00	10	11.3	11	9	11.4	7.7	10.9	47.4	38.7	9.1	6.6	11.4
Cadmium (Cd)	21	0.4	5	0.15	0.5	4		0.32	0.50	0.15	0.28	0.36	0.23	0.26	0.20	0.32	0.3	0.3	0.29	0.23	0.3	0.2	0.18	0.4	0.4	0.28	0.24	0.48
Chromium (Cr)	21	40	400	12.5	78.4	4		69.2	32.8	19.6	19.6	44.9	19.2	19.9	15.6	12.6	32.1	33.7	35.5	29.9	38.7	22.1	12.5	78.4	75.1	20.9	14.4	38.6
Copper (Cu)	21	40	400	11.8	99.9	21		78.6	28.0	11.8	27.8	45.6	23.9	25.8	20.1	20.6	31.7	31.4	32.6	27.1	33.6	21.1	12.7	99.9	89.5	28.3	25.7	51.5
Mercury (Hg)	21	0.3	3	0.1	5.23	16	3	4.71	0.10	0.18	0.44	0.53	0.36	0.43	0.28	0.40	0.35	0.39	0.37	0.33	0.4	0.25	0.11	5.23	4.56	0.72	0.34	0.78
Nickel (Ni)	21	20	200	6.7	49.5	9		21.5	49.5	14.2	10.5	25.1	10.7	12.0	10.4	6.70	19	20.6	21.2	17	22.8	14	17.0	26.5	24.0	11.4	9.7	23.8
Lead (Pb)	21	50	500	17.4	370	13		320	17.4	35.7	60.1	72.1	49.7	64.5	37.0	46.3	54.8	59.4	58.5	56.7	62.7	38.5	18.9	370	346	73.7	49.7	79.4
Zinc (Zn)	21	130	800	45.4	281	8		216	86.4	63.0	75.4	145	81.4	78.2	61.2	53.0	121	133	135	108	142	87.6	45.4	281	264	86.2	69.7	167
Dibutyltin (DBT)	21	0.1	1	0.005	0.031			<LOD	<LOD	<LOD	<LOD	<LOD	0.010	0.012	0.031	0.012	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.005	0.020
Tributyltin (TBT)	21	0.1	1	0.006	0.072			<LOD	<LOD	<LOD	<LOD	<LOD	0.059	0.014	0.072	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.006	<LOD	<LOD	0.008	<LOD	0.023
Acenaphthene	21	0.1		0.0095	0.812	10		0.425	0.125	0.0095	0.0964	0.0452	0.0449	0.131	0.225	0.0239	0.102	0.0535	0.033	0.0251	0.0291	0.0163	0.0836	0.581	0.812	0.213	0.221	0.218
Acenaphthylene	21	0.1		0.019	0.287	8		0.21	0.0244	0.019	0.0659	0.0614	0.0407	0.129	0.133	0.0301	0.142	0.0971	0.0767	0.0678	0.0797	0.0486	0.0785	0.243	0.287	0.19	0.0673	0.222
Anthracene	21	0.1		0.0233	1.65	13		1.16	0.116	0.0233	0.233	0.0973	0.096	0.302	0.444	0.0614	0.195	0.138	0.0906	0.0692	0.0757	0.0532	0.31	1.09	1.65	0.526	0.273	0.418
Benz(a)anthracene	21	0.1		0.0654	4.99	20		3.35	0.408	0.0654	0.594	0.302	0.275	0.983	1.06	0.149	0.685	0.433	0.287	0.208	0.235	0.199	1.06	2.91	4.99	1.94	0.892	1.39
Benzo(a)pyrene	21	0.1		0.113	5.33	21		3.99	0.494	0.113	0.73	0.484	0.296	1.08	1.17	0.222	1.08	0.673	0.515	0.386	0.453	0.335	1.26	3.39	5.33	2.39	1.11	1.91
Benzo(b)fluoranthene	21	0.1		0.104	4.39	21		3.24	0.387	0.104	0.596	0.454	0.272	0.896	0.906	0.204	0.969	0.6	0.481	0.374	0.42	0.307	1	2.99	4.39	1.84	0.869	1.55
Benzo(g,h,i)perylene	21	0.1		0.0948	2.86	20		2.23	0.26	0.0948	0.445	0.41	0.207	0.635	0.674	0.166	0.874	0.545	0.45	0.348	0.417	0.28	0.701	1.92	2.86	1.41	0.657	1.26
Benzo(e)pyrene	21	0.1		0.0812	3.46	20		2.27	0.28	0.0812	0.421	0.332	0.186	0.594	0.659	0.139	0.69	0.426	0.345	0.261	0.304	0.218	0.787	2.41	3.46	1.45	0.684	1.25
Benzo(k)fluoranthene	21	0.1		0.101	4.19	21		3.05	0.361	0.101	0.588	0.424	0.259	0.876	0.848	0.189	0.88	0.552	0.441	0.348	0.403	0.284	0.981	2.72	4.19	1.78	0.856	1.52
C1-Naphthalenes	21	0.1		0.0177	1.21	11		0.384	0.0177	0.0477	0.0772	0.0953	0.093	0.392	1.21	0.0429	0.219	0.104	0.0915	0.0698	0.0908	0.0575	0.165	0.538	0.532	0.322	0.132	0.234
C1-Phenanthrenes	21	0.1		0.0661	2.65	18		1.39	0.251	0.0661	0.331	0.166	0.176	0.577	2.65	0.0798	0.384	0.243	0.149	0.103	0.131	0.0917	0.393	1.42	2.1	0.797	0.394	0.67
C2-Naphthalenes	21	0.1		0.0369	1.17	12		0.393	0.0369	0.0558	0.0817	0.0913	0.0804	0.331	1.17	0.0491	0.216	0.122	0.102	0.0787	0.0884	0.0565	0.138	0.561	0.561	0.275	0.117	0.247
C3-Naphthalenes	21	0.1		0.0381	1.06	10		0.377	0.0655	0.0499	0.0968	0.0899	0.0838	0.306	1.06	0.0381	0.194	0.0984	0.0924	0.0671	0.0811	0.0498	0.143	0.538	0.573	0.322	0.122	0.273
Chrysene	21	0.1		0.0798	5.7	20		3.55	0.416	0.0798	0.635	0.356	0.285	0.923	1.14	0.177	0.78	0.467	0.352	0.235	0.277	0.22	1.14	3.54	5.7	2.06	0.944	1.66
Dibenz(a,h)anthracene	21	0.1		0.0179	0.707	12		0.575	0.0701	0.0179	0.103	0.0809	0.0468	0.165	0.153	0.0371	0.173	0.111	0.0893	0.0683	0.078	0.0557	0.166	0.481	0.707	0.309	0.15	0.269
Fluoranthene	21	0.1		0.119	13.3	21		7.66	0.955	0.119	1.38	0.639	0.837	1.62	1.96	0.301	1.34	0.871	0.544	0.405	0.446	0.352	2.19	7.82	13.3	3.95	1.84	3.29
Fluorene	21	0.1		0.0124	0.844	12		0.511	0.112	0.0124	0.104	0.0498	0.038	0.144	0.297	0.0303	0.121	0.078	0.0445	0.0314	0.0404	0.0269	0.102	0.619	0.844	0.241	0.165	0.213
Indeno(123-c,d)pyrene	21	0.1		0.0996	3.09	20		2.33	0.286	0.0996	0.515	0.454	0.253	0.791	0.772	0.203	1.05	0.643	0.524	0.408	0.487	0.328	0.711	1.98	3.09	1.56	0.688	1.31
Naphthalene	21	0.1		0.0156	0.646	10		0.365	0.0156	0.0193	0.0633	0.0493	0.0509	0.302	0.244	0.0357	0.145	0.0792	0.0705	0.0486	0.0553	0.0418	0.146	0.498	0.646	0.366	0.106	0.182
Perylene	21	0.1		0.0844	1.49	19		0.926	0.106	0.157	0.167	0.164	0.0844	0.248	0.254	0.0901	0.316	0.205	0.176	0.141	0.156	0.108	0.355	0.947	1.49	0.68	0.338	0.581
Phenanthrene	21	0.1		0.0625	4.17	20		2.79	0.695	0.0625	0.771	0.255	0.21	0.649	1.92	0.14	0.698	0.45	0.219	0.149	0.179	0.141	0.671	2.67	4.17	1.55	0.954	1.29
Pyrene	21	0.1		0.113	10.4	21		5.66	0.75	0.113	1.09	0.593	0.594	1.3	1.72	0.255	1.19	0.766	0.505	0.383	0.416	0.317	1.89	5.67	10.4	3.34	1.51	2.78
Total Hydrocarbon Content	15	0.1		0.00678	0.643	10		0.482	0.00678	0.0172	0.462	0.0305	0.156	0.643	0.458	0.147	0.195	0.0969	0.169	0.0224	0.198	0.153						
PCB 101	21			0.00013	0.00197			<0.00008	<0.00008	0.00019	0.00042	0.00108	0.00075	0.00063	0.00083	0.00013	0.00059	0.00059	0.00062	0.00053	0.00059	0.00035	0.00014	<0.00008	<0.00008	0.00060	0.00034	0.00197
PCB 105	21			0.00009	0.00077			<0.00008	<0.00008	0.00009	0.00014	0.00017	0.00016	0.00026	0.00029	<0.00008	0.00022	0.00019	0.00026	0.00022	0.00019	0.00015	<0.00008	<0.00008	<0.00008	0.00024	<0.00008	0.00077
PCB 110	21			0.00009	0.00258			0.00011	0.00009	0.00033	0.00059	0.00164	0.00087	0.00085	0.00120	0.00018	0.00078	0.0009	0.00083	0.00084	0.00093	0.00051	0.00015	<0.00008	<0.00008	0.00084	0.00047	0.00258
PCB 118	21			0.00011	0.00191			<0.00008	<0.00008	0.00024	0.00030	0.00070	0.00066	0.00075	0.00097	0.00011	0.0005	0.00047	0.00041	0.00048	0.0005	0.00029	0.00016	<0.00008	<0.00008	0.00054	0.00025	0.00191
PCB 128	21			0.00008	0.00029			<0.00008	<0.00008	0.00010	0.00010	0.00023	0.00029	0.00016	0.00008	<0.00008	0.00016	0.00023	0.00022	0.00026	0.00026	0.00012	<0.00008	<0.00008	<0.00008	0.00013	<0.00008	0.00024
PCB 138	21			0.00009	0.00173			0.00009	0.00009	0.00040	0.00043	0.00119	0.00173	0.00080	0.00044	0.00017	0.00068	0.00078	0.00126	0.00083	0.00123	0.00087	0.00014	<0.00008	<0.00008	0.00062	0.00022	0.00112
PCB 141	21			0.00008	0.00052			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	0.00052	0.00008	0.00012	<0.00008	0.00008	0.00013	0.00016	0.00009	0.00011	<LOD	<0.00008	<0.00008	<0.00008	0.00016	0.00011	0.00013
PCB 149	21			0.00009	0.00167			0.00009	<0.00008	0.00027	0.00035	0.00128	0.00167	0.00066	0.00060	0.00018	0.00063	0.00068	0.00056	0.00057	0.00065	0.00045	0.00009	<0.00008	<0.00008	0.00069	0.00036	0.00135
PCB 151	21			0.0001	0.00057			<0.00008	<0.00008	<0.00008	0.00016	0.00036	0.00057	0.00018	0.00016	<0.00008	0.00015	0.0001	0.00018	0.0002	0.00024	0.00013	<0.00008	<0.00008	<0.00008	0.00025	0.00013	0.00040
PCB 153	21			0.00012	0.00233			0.00012	<0.00008	0.00031	0.00055	0.00233	0.00211	0.00091	0.00076	0.00025	0.00101	0.00124	0.00112	0.00099	0.00104	0.00055	0.00016	<0.00008	<0.00008	0.00089	0.00052	0.00196
PCB 156	21			0.00009	0.0002			<0.00008	<0.00008	<0.00008	<0.00008	0.00010	0.00020	0.00012	0.00009	<0.00008	0.00009	0.00014	0.00011	0.00009	0.00011	<LOD	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	0.00014
PCB 158	21			0.00009	0.00031			<0.00008	<0.00008	<0.00008	<0.00008	0.00016	0.00031	0.00015	<0.00008	<0.00008	0.00017	0.00018	0.00009	0.00015	0.0002	0.0001	<0.00008	<0.00008	<0.00008	0.00016	<0.00008	0.00029
PCB 170	21			0.00009	0.00104			<0.00008	<0.00008	0.00010	0.00017	0.00040	0.00104	0.00017	0.00016	<0.00008	0.00018	0.00028	0.00023	0.00022	0.00023	<LOD	<0.00008	<0.00008	<0.00008	0.00013	0.00009	0.00029
PCB 18	21			0.00011	0.02579			<0.00008	<0.00008	<0.00008	0.00024	0.00021	0.00014	0.00033	0.00024	<0.00008	0.00016	0.00016	0.00018	0.00011	0.00017	<LOD	0.00014	<0.00008	<0.00008	0.00032	0.00020	0.02579
PCB 180	21			0.00013	0.00205			<0.00008	<0.00008	0.00014	0.00033	0.00093	0.00205	0.00037	0.00038	0.00013	0.00053	0.00058	0.00063	0.00066	0.00062	0.00035	<0.00008	<0.00008	<0.00008	0.00037	0.00016	0.00059
PCB 183	21			0.00008	0.00034			<0.00008	<0.00008	<0.00008	0.00008	0.00022	0.00034	0.00009	0.00013	<0.00008	0.00014	0.00013	<0.00008	0.00015	0.00013	<LOD	<0.00008	<0.00008	<0.00008	<0.00008	0.00009	0.00017
PCB 187	21			0.00011	0.0009			<0.00008	<0.00008	0.00011	0.00020	0.00065	0.00090	0.00024	0.00022	0.00015	0.00031	0.00039	0.00044	0.00031	0.00034	0.00021	<0.00008	<0.00008	<0.00008	0.00024	0.00014	0.00037
PCB 194	21			0.00008	0.00035			<0.00008	<0.00008	<0.00008	0.00009	0.00035	0.00031	<0.00008	0.00014	<0.00008	0.00013	0.00013	0.00015	0.00017	0.00018	0.0001	<0.00008	<0.00008	<0.00008	0.00011	0.00008	0.00020
PCB 28	21			0.00012	0.02459			<0.00008	<0.00008	0.00014	0.00050	0.00064	0.00037	0.00083	0.00058	0.00012	0.00041	0.00041	0.00048	0.00034	0.00044	0.00025	0.00033	<0.00008	<0.00008	0.00075	0.00044	0.02459
PCB 31	21			0.00009	0.02671			<0.00008	<0.00008	0.00009	0.00042	0.00049	0.00027	0.00073	0.00049	0.00009	0.00031	0.00028	0.00033	0.00024	0.00031	0.00014	0.00021	<0.00008	<0.00008	0.00049	0.00029	0.02671
PCB 44	21			0.00011	0.00949			<0.00008	<0.00008	<0.00008	0.00039	0.00069	0.00031	0.00056	0.00048	0.00011	0.00031	0.00026	0.00035	0.00027	0.00035	0.00014	0.00014	<0.00008	<0.00008	0.00050	0.00025	0.00949
PCB 47	21			0.00011	0.00268			<0.00008	<0.00008	<0.00008	0.00016	0.00045	0.00013	0.00025	0.00018	<0.00008	0.00015	0.00012	0.00018	0.00011	0.00015	<0.00008	<0.00008	<0.00008	<0.00008	0.00021	0.00016	0.00268
PCB 49	21			0.00009	0.00887			<0.00008	<0.00008	0.00009	0.00043	0.00091	0.00031	0.00057	0.00046	0.00009	0.00031	0.00026	0.00037	0.00024	0.00034	0.00018	0.00011	<0.00008	<0.00008	0.00046	0.00025	0.00887
PCB 52	21			0.00014	0.00914			<0.00008	<0.00008	0.00014	0.00060	0.00129	0.00049	0.00087	0.00089	0.00016	0.00046	0.00046	0.0005	0.00039	0.00052	0.00026	0.00021	<0.00008	<0.00008	0.00059	0.00026	0.00914
PCB 66	21			0.00011	0.00971			<0.00008	<0.00008	0.00012	0.00062	0.00120	0.00050	0.00081	0.00071	0.00011	0.00056	0.00048	0.00062	0.00043	0.00059	0.00022	0.00018	<0.00008	<0.00008	0.00069	0.00034	0.00971
Sum of PCBs (25 congeners)	21	0.02	0.2	0	0.13146	19		0.00041	0.00018	0.00286	0.00727	0.01767	0.01700	0.01137	0.01060	0.00198	0.00902	0.00957	0.01028	0.00889	0.01042	0.00537	0.00216	0.00000	0.00000	0.00998	0.00515	0.13146
AHCH	13			<0.0001	<0.0001			<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001							<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
BHCH	13			<0.0001	<0.0001			<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001							<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GHCH	13			0.0003	0.0003			<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001							<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003
DIELDRIN	13	0.005		0.0002	0.0004			<0.0001	<0.0001	0.0002		<0.0001	0.0003	0.0002		<0.0001							0.0002	<0.0001	<0.0001	0.0004	<0.0001	0.0002
HCB	13			<0.0001	<0.0001			<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001							<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
PPTDE	13			0.0001	0.0016			<0.0001	<0.0001	0.0001		0.0009	0.0005	0.0016		<0.0001							<0.0001	<0.0001	<0.0001	0.0005	0.0003	0.0009
PPDDE	13			0.0002	0.0014			<0.0001	<0.0001	0.0002		0.0014	0.0004	0.0006		<0.0001							0.0002	<0.0001	<0.0001	0.0003	<0.0001	0.0003
PPDDT	13	0.001		0.0002	0.0018	3		<0.0001	0.0006	<0.0001		0.0004	0.0002	<0.0001		0.0018							0.0003	<0.0001	<0.0001	0.0009	0.0006	0.0011
BDE17	15			<0.00005	<0.00005			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE28	15			0.000127	0.000127			<0.00005	<0.00005	<0.00005	<0.00005	0.000127	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE47	15			0.00006	0.00042			<0.00005	<0.00005	0.00008	0.00006	0.00042	0.00011	0.00015	0.00008	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.0003
BDE66	15			<0.00005	<0.00005			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE85	15			<0.00005	<0.00005			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE99	15			0.00007	0.00015			<0.00005	<0.00005	0.00007	<0.00005	0.00015	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE100	15			0.00007	0.00007			<0.00005	<0.00005	<0.00005	<0.00005	0.00007	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE138	15			<0.00005	<0.00005			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE153	15			<0.00005	<0.00005			<0.00005	<0.00005	<0.00005	<0.00005	0.00007	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE154	15			0.000124	0.000124			<0.00005	<0.00005	<0.00005	<0.00005	0.000124	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE183	15			0.000281	0.00033			<0.00005	<0.00005	<0.00005	<0.00005	0.000281	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.0003
BDE209	15			0.0004	0.5769			0.0023	0.0004	0.0282	0.013	0.158	0.032	0.033	0.004	0.013							0.0017	0.0010	<LOD	0.0127	0.0251	0.5769

Sediment Results Screening Sheet

Site Name: Cory Decarbonisation
Job Number: EN010128
Screening Criteria: Canadian Sediment Quality Guidelines for the Protection of Aquatic Life

Analyte	No. Samples	ISQG/TEL mg/kg	PEL mg/kg	Min mg/kg	Max mg/kg	# ISQG/TEL Exceed	# PEL Exceed	S13	S14	S15	Subtidal 7	Subtidal 8	Subtidal 9	Subtidal 10	Subtidal 11	Subtidal 12	Intertidal 1	Intertidal 2	Intertidal 3	Intertidal 4	Intertidal 5	Intertidal 6	S05	S06	S06	S07	S07	S07
								0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.7m	0.0m	0.9m	0.0m	1.0m	2.0m
Arsenic (As)	21	7.24	41.6	6	47.4	17	1	33.7	11.6	9.9	7.40	12.0	7.50	8.40	6.60	6.00	10	11.3	11	9	11.4	7.7	10.9	47.4	38.7	9.1	6.6	11.4
Cadmium (Cd)	21	0.7	4.2	0.15	0.5			0.32	0.50	0.15	0.28	0.36	0.23	0.26	0.20	0.32	0.3	0.3	0.29	0.23	0.3	0.2	0.18	0.4	0.4	0.28	0.24	0.48
Chromium (Cr)	21	52.3	160	12.5	78.4	3		69.2	32.8	19.6	19.6	44.9	19.2	19.9	15.6	12.6	32.1	33.7	35.5	29.9	38.7	22.1	12.5	78.4	75.1	20.9	14.4	38.6
Copper (Cu)	21	18.7	108	11.8	99.9	19		78.6	28.0	11.8	27.8	45.6	23.9	25.8	20.1	20.6	31.7	31.4	32.6	27.1	33.6	21.1	12.7	99.9	89.5	28.3	25.7	51.5
Mercury (Hg)	21	0.13	0.7	0.1	5.23	14	5	4.71	0.10	0.18	0.44	0.53	0.36	0.43	0.28	0.40	0.35	0.39	0.37	0.33	0.4	0.25	0.11	5.23	4.56	0.72	0.34	0.78
Nickel (Ni)	21			6.7	49.5	1		21.5	49.5	14.2	10.5	25.1	10.7	12.0	10.4	6.70	19	20.6	21.2	17	22.8	14	17	26.5	24	11.4	9.7	23.8
Lead (Pb)	21	30.2	112	17.4	370	16	3	320	17.4	35.7	60.1	72.1	49.7	64.5	37	46.3	54.8	59.4	58.5	56.7	62.7	38.5	18.9	370	346	73.7	49.7	79.4
Zinc (Zn)	21	124	271	45.4	281	7	1	216	86.4	63.0	75.4	145	81.4	78.2	61.2	53.0	121	133	135	108	142	87.6	45.4	281	264	86.2	69.7	167
Dibutyltin (DBT)	21			0.005	0.031			<0.005	<0.005	<0.005	<0.005	<0.005	0.010	0.012	0.031	0.012	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.005	0.02
Tributyltin (TBT)	21			0.006	0.072			<0.005	<0.005	<0.005	<0.005	<0.005	0.059	0.014	0.072	<0.005	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.006	<LOD	<LOD	0.008	<LOD	0.023
Acenaphthene	21	0.00671	0.0889	0.0095	0.812		12	0.425	0.125	0.0095	0.0964	0.0452	0.0449	0.131	0.225	0.0239	0.102	0.0535	0.033	0.0251	0.0291	0.0163	0.0836	0.581	0.812	0.213	0.221	0.218
Acenaphthylene	21	0.00587	0.128	0.019	0.287	21		0.21	0.0244	0.019	0.0659	0.0614	0.0407	0.129	0.133	0.0301	0.142	0.0971	0.0767	0.0678	0.0797	0.0486	0.0785	0.243	0.287	0.19	0.0673	0.222
Anthracene	21	0.0469	0.245	0.0233	1.65		3	1.16	0.116	0.0233	0.233	0.0973	0.096	0.302	0.444	0.0614	0.195	0.138	0.0906	0.0692	0.0757	0.0532	0.31	1.09	1.65	0.526	0.273	0.418
Benz(a)anthracene	21	0.0748	0.693	0.0654	4.99	11	9	3.35	0.408	0.0654	0.594	0.302	0.275	0.983	1.06	0.149	0.685	0.433	0.287	0.208	0.235	0.199	1.06	2.91	4.99	1.94	0.892	1.39
Benzo(a)pyrene	21	0.0888	0.763	0.113	5.33	11	10	3.99	0.494	0.113	0.73	0.484	0.296	1.08	1.17	0.222	1.08	0.673	0.515	0.386	0.453	0.335	1.26	3.39	5.33	2.39	1.11	1.91
Benzo(b)fluoranthene	21			0.104	4.39			3.24	0.387	0.104	0.596	0.454	0.272	0.896	0.906	0.204	0.969	0.6	0.481	0.374	0.42	0.307	1	2.99	4.39	1.84	0.869	1.55
Benzo(g,h,i)perylene	21			0.0948	2.86			2.23	0.26	0.0948	0.445	0.41	0.207	0.635	0.674	0.166	0.874	0.545	0.45	0.348	0.417	0.28	0.701	1.92	2.86	1.41	0.657	1.26
Benzo(e)pyrene	21			0.0812	3.46			2.27	0.28	0.0812	0.421	0.332	0.186	0.594	0.659	0.139	0.69	0.426	0.345	0.261	0.304	0.218	0.787	2.41	3.46	1.45	0.684	1.25
Benzo(k)fluoranthene	21			0.101	4.19			3.05	0.361	0.101	0.588	0.424	0.259	0.876	0.848	0.189	0.88	0.552	0.441	0.348	0.403	0.284	0.981	2.72	4.19	1.78	0.856	1.52
C1-Naphthalenes	21			0.0177	1.21			0.384	0.0177	0.0477	0.0772	0.0953	0.093	0.392	1.21	0.0429	0.219	0.104	0.0915	0.0698	0.0908	0.0575	0.165	0.538	0.532	0.322	0.132	0.234
C1-Phenanthrenes	21			0.0661	2.65			1.39	0.251	0.0661	0.331	0.166	0.176	0.577	2.65	0.0798	0.384	0.243	0.149	0.103	0.131	0.0917	0.393	1.42	2.1	0.797	0.394	0.67
C2-Naphthalenes	21			0.0369	1.17			0.393	0.0369	0.0558	0.0817	0.0913	0.0804	0.331	1.17	0.0491	0.216	0.122	0.102	0.0787	0.0884	0.0565	0.138	0.561	0.561	0.275	0.117	0.247
C3-Naphthalenes	21			0.0381	1.06			0.377	0.0655	0.0499	0.0968	0.0899	0.0838	0.306	1.06	0.0381	0.194	0.0984	0.0924	0.0671	0.0811	0.0498	0.143	0.538	0.573	0.322	0.122	0.273
Chrysene	21	0.108	0.846	0.0798	5.7	11	9	3.55	0.416	0.0798	0.635	0.356	0.285	0.923	1.14	0.177	0.78	0.467	0.352	0.235	0.277	0.22	1.14	3.54	5.7	2.06	0.944	1.66
Dibenz(a,h)anthracene	21	0.00622	0.135	0.0179	0.707	11	10	0.575	0.0701	0.0179	0.103	0.0809	0.0468	0.165	0.153	0.0371	0.173	0.111	0.0893	0.0683	0.078	0.0557	0.166	0.481	0.707	0.309	0.15	0.269
Fluoranthene	21	0.113	1.494	0.119	13.3	12	9	7.66	0.955	0.119	1.38	0.639	0.837	1.62	1.96	0.301	1.34	0.871	0.544	0.405	0.446	0.352	2.19	7.82	13.3	3.95	1.84	3.29
Fluorene	21	0.0212	0.144	0.0124	0.844	12	8	0.511	0.112	0.0124	0.104	0.0498	0.038	0.144	0.297	0.0303	0.121	0.078	0.0445	0.0314	0.0404	0.0269	0.102	0.619	0.844	0.241	0.165	0.213
Indeno(123-c,d)pyrene	21			0.0996	3.09			2.33	0.286	0.0996	0.515	0.454	0.253	0.791	0.772	0.203	1.05	0.643	0.524	0.408	0.487	0.328	0.711	1.98	3.09	1.56	0.688	1.31
Naphthalene	21	0.0346	0.391	0.0156	0.646	17	2	0.365	0.0156	0.0193	0.0633	0.0493	0.0509	0.302	0.244	0.0357	0.145	0.0792	0.0705	0.0486	0.0553	0.0418	0.146	0.498	0.646	0.366	0.106	0.182
Perylene	21			0.0844	1.49			0.926	0.106	0.157	0.167	0.164	0.0844	0.248	0.254	0.0901	0.316	0.205	0.176	0.141	0.156	0.108	0.355	0.947	1.49	0.68	0.338	0.581
Phenanthrene	21	0.0867	0.544	0.0625	4.17	8	12	2.79	0.695	0.0625	0.771	0.255	0.21	0.649	1.92	0.14	0.698	0.45	0.219	0.149	0.179	0.141	0.671	2.67	4.17	1.55	0.954	1.29
Pyrene	21	0.153	1.398	0.113	10.4	12	8	5.66	0.75	0.113	1.09	0.593	0.594	1.3	1.72	0.255	1.19	0.766	0.505	0.363	0.416	0.317	1.89	5.67	10.4	3.34	1.51	2.78
Total Hydrocarbon Content	21			0.00678	0.643			0.482	0.00678	0.0172	0.462	0.0305	0.156	0.643	0.458	0.147	0.195	0.0969	0.169	0.0224	0.198	0.153						
PCB 101	21			0.00013	0.00197			<0.00008	<0.00008	0.00019	0.00042	0.00108	0.00075	0.00063	0.00083	0.00013	0.00059	0.00059	0.00062	0.00053	0.00059	0.00035	0.00014	<0.00008	<0.00008	0.0006	0.00034	0.00197
PCB 105	21			0.00009	0.00077			<0.00008	<0.00008	0.00009	0.00014	0.00017	0.00016	0.00026	0.00029	<0.00008	0.00022	0.00019	0.00026	0.00022	0.00019	0.00015	<0.00008	<0.00008	<0.00008	0.00024	<0.00008	0.00077
PCB 110	21			0.00009	0.00258			0.00011	0.00009	0.00033	0.00059	0.00164	0.00087	0.00085	0.00120	0.00018	0.00078	0.0009	0.00083	0.00084	0.00093	0.00051	0.00015	<0.00008	<0.00008	0.00084	0.00047	0.00258
PCB 118	21			0.00011	0.00191			<0.00008	<0.00008	0.00024	0.00030	0.00070	0.00066	0.00075	0.00097	0.00011	0.0005	0.00047	0.00041	0.00048	0.0005	0.00029	0.00016	<0.00008	<0.00008	0.00054	0.00025	0.00191
PCB 128	21			0.00008	0.00029			<0.00008	<0.00008	0.00010	0.00010	0.00023	0.00029	0.00016	0.00008	<0.00008	0.00016	0.00023	0.00022	0.00026	0.00026	0.00012	<0.00008	<0.00008	<0.00008	0.00013	<0.00008	0.00024
PCB 138	21			0.00009	0.00173			0.00009	0.00009	0.00040	0.00043	0.00119	0.00173	0.00080	0.00044	0.00017	0.00068	0.00078	0.00126	0.00083	0.00123	0.00087	0.00014	<0.00008	<0.00008	0.00062	0.00022	0.00112
PCB 141	21			0.00008	0.00052			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	0.00052	0.00008	0.00012	<0.00008	0.00008	0.00013	0.00016	0.00009	0.00011	<LOD	<0.00008	<0.00008	<0.00008	0.00016	0.00011	0.00013
PCB 149	21			0.00009	0.00167			0.00009	<0.00008	0.00027	0.00035	0.00128	0.00167	0.00066	0.00060	0.00018	0.00063	0.00068	0.00056	0.00057	0.00065	0.00045	0.00009	<0.00008	<0.00008	0.00069	0.00036	0.00135
PCB 151	21			0.0001	0.00057			<0.00008	<0.00008	<0.00008	0.00016	0.00036	0.00057	0.00018	0.00016	<0.00008	0.00015	0.0001	0.00018	0.0002	0.00024	0.00013	<0.00008	<0.00008	<0.00008	0.00025	0.00013	0.0004
PCB 153	21			0.00012	0.00233			0.00012	<0.00008	0.00031	0.00055	0.00233	0.00211	0.00091	0.00076	0.00025	0.00101	0.00124	0.00112	0.00099	0.00104	0.00055	0.00016	<0.00008	<0.00008	0.00089	0.00052	0.00196
PCB 156	21			0.00009	0.0002			<0.00008	<0.00008	<0.00008	<0.00008	0.00010	0.00020	0.00012	0.00009	<0.00008	0.00009	0.00014	0.00011	0.00009	0.00011	<LOD	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	0.00014
PCB 158	21			0.00009	0.00031			<0.00008	<0.00008	<0.00008	<0.00008	0.00016	0.00031	0.00015	<0.00008	<0.00008	0.00017	0.00018	0.00009	0.00015	0.0002	0.0001	<0.00008	<0.00008	<0.00008	0.00016	<0.00008	0.00029
PCB 170	21			0.00009	0.00104			<0.00008	<0.00008	0.00010	0.00017	0.00040	0.00104	0.00017	0.00016	<0.00008	0.00018	0.00028	0.00023	0.00022	0.00023	<LOD	<0.00008	<0.00008	<0.00008	0.00013	0.00009	0.00029
PCB 18	21			0.00011	0.02579			<0.00008	<0.00008	<0.00008	0.00024	0.00021	0.00014	0.00033	0.00024	<0.00008	0.00016	0.00016	0.00018	0.00011	0.00017	<LOD	0.00014	<0.00008	<0.00008	0.00032	0.0002	0.02579
PCB 180	21			0.00013	0.00205			<0.00008	<0.00008	0.00014	0.00033	0.00093	0.00205	0.00037	0.00038	0.00013	0.00053	0.00058	0.00063	0.00066	0.00062	0.00035	<0.00008	<0.00008	<0.00008	0.00037	0.00016	0.00059
PCB 183	21			0.00008	0.00034			<0.00008	<0.00008	<0.00008	0.00008	0.00022	0.00034	0.00009	0.00013	<0.00008	0.00014	0.00013	<LOD	0.00015	0.00013	<LOD	<0.00008	<0.00008	<0.00008	<0.00008	0.00009	0.00017
PCB 187	21			0.00011	0.0009			<0.00008	<0.00008	0.00011	0.00020	0.00065	0.00090	0.00024	0.00022	0.00015	0.00031	0.00039	0.00044	0.00031	0.00034	0.00021	<0.00008	<0.00008	<0.00008	0.00024	0.00014	0.00037
PCB 194	21			0.00008	0.00035			<0.00008	<0.00008	<0.00008	0.00009	0.00035	0.00031	<0.00008	0.00014	<0.00008	0.00013	0.00013	0.00015	0.00017	0.00018	0.0001	<0.00008	<0.00008	<0.00008	0.00011	0.00008	0.0002
PCB 28	21			0.00012	0.02459			<0.00008	<0.00008	0.00014	0.00050	0.00064	0.00037	0.00083	0.00058	0.00012	0.00041	0.00041	0.00048	0.00034	0.00044	0.00025	0.00033	<0.00008	<0.00008	0.00075	0.00044	0.02459
PCB 31	21			0.00009	0.02671			<0.00008	<0.00008	0.00009	0.00042	0.00049	0.00027	0.00073	0.00049	0.00009	0.00031	0.00028	0.00033	0.00024	0.00031	0.00014	0.00021	<0.00008	<0.00008	0.00049	0.00029	0.02671
PCB 44	21			0.00011	0.00949			<0.00008	<0.00008	<0.00008	0.00039	0.00069	0.00031	0.00056	0.00048	0.00011	0.00031	0.00026	0.00035	0.00027	0.00035	0.00014	0.00014	<0.00008	<0.00008	0.0005	0.00025	0.00949
PCB 47	21			0.00011	0.00268			<0.00008	<0.00008	<0.00008	0.00016	0.00045	0.00013	0.00025	0.00018	<0.00008	0.00015	0.00012	0.00018	0.00011	0.00015	<LOD	<0.00008	<0.00008	<0.00008	0.00021	0.00016	0.00268
PCB 49	21			0.00009	0.00887			<0.00008	<0.00008	0.00009	0.00043	0.00091	0.00031	0.00057	0.00046	0.00009	0.00031	0.00026	0.00037	0.00024	0.00034	0.00018	0.00011	<0.00008	<0.00008	0.00046	0.00025	0.00887
PCB 52	21			0.00014	0.00914			<0.00008	<0.00008	0.00014	0.00060	0.00129	0.00049	0.00087	0.00089	0.00016	0.00046	0.00046	0.0005	0.00039	0.00052	0.00026	0.00021	<0.00008	<0.00008	0.00059	0.00026	0.00914
PCB 66	21			0.00011	0.00971			<0.00008	<0.00008	0.00012	0.00062	0.00120	0.00050	0.00081	0.00071	0.00011	0.00056	0.00048	0.00062	0.00043	0.00059	0.00022	0.00018	<0.00008	<0.00008	0.00069	0.00034	0.00971
Sum of PCBs (25 congeners)	21	0.0215	0.189	0	0.13146	1		0.00041	0.00018	0.00286	0.00727	0.01767	0.01700	0.01137	0.01060	0.00198	0.00902	0.00957	0.01028	0.00889	0.01042	0.00537	0.00216	0.00000	0.00000	0.00998	0.00515	0.13146
AHCH		0.00032	0.00099	<0.0001	<0.0001			<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001							<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
BHCH		0.00032	0.00099	<0.0001	<0.0001			<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001							<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GHCH		0.00032	0.00099	0.0003	0.0003			<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001							<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003
DIELDRIN		0.00071	0.0043	0.0002	0.0004			<0.0001	<0.0001	0.0002		<0.0001	0.0003	0.0002		<0.0001							0.0002	<0.0001	<0.0001	0.0004	<0.0001	0.0002
HCB				0	0			<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001							<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
PPTDE	13	0.00122	0.00781	0.0001	0.0016	1		<0.0001	<0.0001	0.0001		0.0009	0.0005	0.0016		<0.0001							<0.0001	<0.0001	<0.0001	0.0005	0.0003	0.0009
PPDDE		0.00207	0.374	0.0002	0.0014			<0.0001	<0.0001	0.0002		0.0014	0.0004	0.0006		<0.0001							0.0002	<0.0001	<0.0001	0.0003	<0.0001	0.0003
PPDDT	13	0.00117	0.00477	0.0002	0.0018	1		<0.0001	0.0006	<0.0001		0.0004	0.0002	<0.0001		0.0018							0.0003	<0.0001	<0.0001	0.0009	0.0006	0.0011
BDE17				0	0			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE28		0.11		0.000127	0.000127			<0.00005	<0.00005	<0.00005	<0.00005	0.0001	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE47		0.0975		0.00006	0.00042			<0.00005	<0.00005	0.0001	0.0001	0.0004	0.0001	0.0002	0.0001	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.0003
BDE66		0.0975		<0.00005	<0.00005			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE85		0.001		<0.00005	<0.00005			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE99		0.001		0.00007	0.00015			<0.00005	<0.00005	0.0001	<0.00005	0.0002	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE100		0.001		0.00007	0.00007			<0.00005	<0.00005	<0.00005	<0.00005	0.0001	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE138				<0.00005	<0.00005			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE153		1.1		0.00007	0.00007			<0.00005	<0.00005	<0.00005	<0.00005	0.0001	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE154		1.1		0.000124	0.000124			<0.00005	<0.00005	<0.00005	<0.00005	0.0001	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
BDE183		14		0.000281	0.00033			<0.00005	<0.00005	<0.00005	<0.00005	0.0003	<0.00005	<0.00005	<0.00005	<0.00005							<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.0003
BDE209	15	0.0475		0.0004	0.5769	2		0.0023	0.0004	0.0282	0.0130	0.1580	0.0320	0.0330	0.0040	0.0130							0.0017	0.0010	<0.00005	0.0127	0.0251	0.5769

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